

The Middlesex ee

This is the official newsletter of the Middlesex Beekeepers Association, Inc., a 501(c)3 non-profit organization; www.middlesexbeekeepers.org

“He must be a dull man who can examine the exquisite structure of a comb, so beautifully adapted to its end, without enthusiastic admiration.”

Charles Darwin

January 26, 2018 MCBA indoor meeting and bee talk

Introductions

Tom opened the meeting by welcoming everyone and thanking them for coming out for the first meeting of 2018, and asking those present: Who's here for the first time? Lots of new faces! Good. What we like to do is for people that have never been to a meeting before – to introduce yourselves (tell us who you are, what town you live in, whether you keep bees or are hoping to keep bees.

- Simona, Marlboro, started keeping bees through a friend in 2016 after taking Rick's class. She has 2 hives at home, and a third hive at a neighbor's house. I have a ton of questions because I've made a ton of mistakes... Tom responded that “We all have.”
- Marissa, grew up in Connecticut and my dad kept bees while I was growing up so it just seemed natural for me to do it as an adult. I took Rick's class 7-8 years ago and have kept bees off and on since then in Berlin MA. The bees don't seem to winter well, so I'm starting over with new bees this spring.
- Tobin from Methuen, said that he's always liked the bees at Topsfield Fair, and now that he's an adult he decided to start beekeeping. I watch a lot of videos on YouTube so I feel like I'm an expert now...

You can RENEW YOUR MEMBERSHIP with the form on pg. 28 or ONLINE

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Save The Date

Southern Adirondack Beekeepers Association Annual Seminar

03/10, 8am-4:30pm; *Malta, NY*, for more details, visit:

<http://adirondackbees.org/meetingsevents/annual-seminar/>

Massachusetts Beekeeping Association Spring Meeting

03/17, 8am-3:30pm, for more details, visit: <https://www.massbee.org/>

MCBA Indoor Meetings and Bee Talks

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

03/23, 7-9pm, Indoor Meeting & Bee Talk: Mechanics of Honey Bee Swarms

04/27, 6:30-9pm, Annual Meeting (see page 22), Spaghetti Dinner

MCBA Spring Workshop (Tentative)

Carl Flowers' Tree Farm, 1 Kemp Street, Groton, MA

05/09, 9am-3pm, Event is tentative, more information to follow.

MCBA Outdoor Meetings and Hive Openings

Hosts Wanted: Contact Tom Fiore to sign up! president@middlesexbeekeepers.org

05/26, 1-3pm, Location TBD

06/23, 1-3pm, Location TBD

07/28, 1-3pm, Location TBD

08/25, 1-3pm, Location TBD

09/26, 1-3pm, Location TBD

Massachusetts Beekeeping Association Field Day

06/16, 9am-3pm, for more details, visit: <https://www.massbee.org/>

- Jim from Concord, started last year and he's trying to learn as much as he can. His colony collapsed the first time through so he's starting up again this spring.
- Vallerie from West Concord took the bee class at Drumlin Farm last year; she has one hive of Russian Bees, I made a lot of mistakes and I have a lot of question. The bees were alive at Christmas, but after the brutal cold spells – well, now they're not alive.
- Randy from North Reading; has had two hives for about five years now. Took the beginner class that Essex County offers, and I've started another hive down on the Cape.
- Bridget from Boxboro, this is my first foray into beekeeping, and she's really excited to start this year.
- Leo from Woburn, has been beekeeping for about seven years now. I have two hives at home and another two elsewhere. They're still alive and hopefully they'll make it through another month...

Announcements & Club Business

Mike Bayko

Tom began by relaying the sad news that longtime member Mike Bayko passed away earlier this month. Mike was one of the true treasures of the club; he was a font of knowledge, and he was always very willing to share his time and knowledge and help out a great deal with club activities. His family chose not to have a public service or event, but

Tom wanted the membership to know that Mike had passed away. One of Mike's favorite expressions was that "The bees never read the books" and that they're not necessarily going to do what the text books say they're going to do. Another point that Mike liked to stress, especially at this point in the year, was the importance of ventilation. Mike was a big proponent of beekeepers making sure their bees have plenty of ventilation in the winter – so your bees don't get wet and then freeze... Mike will definitely be missed.

330 CMR 8.00: Apiary Inspection Regulations

Tom announced that earlier that day, he received an email from the State's Chief Apiary Inspector, Kim Skyrm. The information is on our internal website, so you can read it in more detail there – basically the apiary regulations that were undergoing revisions for last couple of years (there have been a number of public meetings) – the Department of Agricultural Resources has issued a draft of a revised set of apiary inspection regulations based upon the input they've received over the last couple of years. Before the revised regulations are finalized, the DAR has decided to have yet another comment period. There will be a "Stakeholders" meeting on 2/12 from 2-4pm at the Fisheries & Wildlife building in Westboro, MA. More details, and a copy of the PDF of the draft regulations are posted in our members forum in the Laws, Regulations, Government Issues sub-category. So if you'd care to, you can review the proposed regulations and take part in the comment period.

Parking for Indoor Meetings

There is parking on the street in front of the church on the opposite side of the street. In addition, there is parking along the side street and overflow parking can be found in the school parking lot just a little ways past the church on the side street (Church Street).

Membership Renewal

You can renew at a club meeting, online at our website (*Please fill out the form before going to PayPal to pay your dues*).

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H4041 / MassBee / Friends of the Earth

In December we received a request from the state beekeeping organization, MassBee, to consider making a donation to Friends of the Earth to support lobbying efforts to pass House Bill H4041, An Act to Protect Massachusetts Pollinators. MassBee sent out the request to all of the local beekeeping organizations. There has been an update on the status of the bill: 135 legislators from both the House and Senate have cosponsored the bill. There is a companion bill in the Senate that has identical language. In addition, the bill was reported favorably by the joint committee on Natural Resources and Agriculture. It has now moved forward to the House's Ways and Means committee.

The bill is to limit the use of the Neonicotinoid class of pesticides and to license pesticide applicators... Tom said that many people feel that the bill is not perfect but at least it's a step in the right direction to get these pesticides out of the reach of consumers who often feel that "If using a little is good, then

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!

applying more is better" and indiscriminately spreading these pesticides around the environment. It doesn't apply to licensed applicators, but if it passes you won't be able to pick these chemicals up off the shelf at your local big box store.

Friends of the Earth, with the support of some local organizations and some other local individuals have retained a lobbyist to help shepherd this bill through the statehouse, and MassBee's request to us is to consider making a donation to help with this effort. Other clubs have donated somewhere in the area of \$300. Tom proposed that the club do so as well – we have not done this in the past, and is not something we would do as a matter of course, but it is something we can do in an instance such as this, if the membership so chooses.

A motion was made to donate \$300 to Friends of the Earth to help defray their lobbying costs. A discussion of the merits of the bill, Friends of the Earth, and the Friends of the Earth's lobbying efforts followed. A motion was made to vote on the donation, and the motion passed with no dissent.

Tom said that he would post information on the Members Forum for contact information on the House Ways and Means committee chairs. A motion was made for the club president to draft a letter on behalf of the club. Tom said that typically when the membership (or board) directs him to write a letter, he will do so and begins the letters by identifying how many members we have in towns throughout

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

Middlesex County (both Urban, Suburban, and Rural areas) – so the first paragraph of the letters he sends sets the stage "I just want you to know who I'm writing on behalf of..." Tom emphasized that rather getting a petition going it would be more effective for individuals to make contact with their representatives and senators.

Bee Talk

John S. said that during introductions, someone mentioned YouTube, and everyone laughed, and then Tom mentioned that 'the bees don't read books,' and everyone laughed, and I haven't heard anyone mention the various websites/blogs that are out there – but John wanted to make the point that he's been beekeeping for 4-years since taking John Cheetham's class, and

that YouTube, the books, the websites are like anything else in life. The same is true with the YouTube videos, books, and websites – **there are some really, really good YouTube Videos** (Michael Palmer’s Keeping Bees in Frozen North America) if there’s a way for us to somehow point out the good sources (Tom Seeley, Keith Delaplane, Marla Spivak, Heather Mattila, and on and on) giving amazing talks on what’s topical in bee research, and how to keep bees (whether you’re a beginner or experienced beekeeper) and it’s a little pat to say that all YouTube videos are useless, or the books – if you’re a beginner beekeeper then *Beekeepers for Dummies* is actually a pretty decent source. *The Beekeepers Handbook* by Diana Sammataro and Alphonse Avitabile is a great book. If you’re really ambitious, there’s a big, thick, red book that Dadant publishes: *The Hive and the Honey Bee* that’s just an education unto itself. John said that if you don’t watch good videos, and read good books, or subscribe to American Bee Journal then you’re not going to learn anything. You can’t pick up enough from attending one of our meetings for a few hours once a month – and not all of the advice given is correct.

Tom said that he wanted to put Mike’s comment in context, that **no matter what the experts say that you should expect to happen in a given situation, it may not happen because there is so much variability in bee life and behavior** – the bees didn’t read the books so they didn’t know they were supposed to do something in a certain way... But Tom agreed with John, saying that there are tremendous resources available now, and if you focus on publications and videos from the people John mentioned – people that are active in the field of both practical beekeeping skills and research, then there is a lot out there that can be helpful. Don mentioned that he felt that you can learn more from a few hours with a mentor, and going to club hive openings than you will simply by reading – and if you go into the forums on our website then there is a way to ask for a mentor or find one in your city/town. Tom mentioned that the club has a workshop in May, and John C. added that the State has an apiary where they have monthly hive openings. Starting in May, we’ll be meeting at members houses and begin doing hive openings.

A member from Berlin said that she thought her hive was doing well

going into winter, but after that vicious cold snap in December/January she asked “**Do bees freeze in time?**” She said that she has pictures of bees popping their heads out, or moving across the frames, but it looks like they’re just frozen in time. Did your colony have stores? The hive is packed full of honey. How big was your cluster? Not big. That’s your problem right there, they froze (*you need a minimum mass of bees to generate heat, and if the cluster gets too small that doesn’t happen*). I know, but it’s just strange... Tony P. repeated Rick Reault’s Rules for Overwintering - **you need several things to make it through winter:**

- A good amount of honey stores
- Healthy Bees (that includes the queen)
- Lots of Bees (to generate heat), and finally
- Good ventilation *that Mike always talked about.*

If you don’t have enough healthy bees then there are ways to get them through winter – you can put them above a larger colony separated by a double screened Snelgrove Board, you can put them into an unheated shed or basement, but there’s a critical mass that they need to generate heat and once they don’t have that mass of bees generating heat then they’ll just freeze. John S. suggested that bees generally don’t die from freezing, and that members should watch the YouTube video of Mike Palmer’s talk titled Keeping Bees in Frozen North America – Mike Palmer keeps bees in Northern Vermont and he gave this talk that’s a little more than an hour to the National Honey Show, and he gives you chapter and verse on how he keeps bees (*how he wraps his hives, how much honey they need, the insulation he uses on top*) – he’s a highly respected commercial beekeeper and you should check him out. Don added that if you didn’t treat your bees in August, then by November it’s already too late.

Another member said that they have some ideas about what we did wrong, but her question was about starting up again with the equipment she has. **What should I do with the box of honey they left behind?** Should I take it and harvest it, or should I save it for restarting in the spring? Is this honey that’s in the brood chamber? No, it’s in a medium super and it’s all capped. Was it honey from nectar that was brought in, or is it from feeding in the fall? No, I didn’t feed. John C. asked: did you treat at all?

No. Then it's good honey, human honey. You can eat that honey if you want to, bring it inside and warm it up (Above 75-80° F.) if you plan on extracting because if you don't then boy will you be sitting there spinning the frames forever to get that honey out of there. Or, you can feed it to your new bees. John C. said that if she has a medium that's full, then she probably still has honey in the deep. If you want to eat it, you can eat it – and if you want to save it for next year's package(s) then you can do that.

Related to that, **how do I prepare or clean my boxes out to restart in the spring if you have a new package coming in?** My question is along the same lines, my hive was taken out by a bear in the fall... John C. said that you can shake the bees out of the frames by tapping them gently on both sides (you won't get every bee out, but you'll get most), but when you put your package in then they'll take care of the remaining bees and the new package will rip them out. John C. said that he always looks at the last brood area to study it and check whether there's any disease in there and it's usually only one or two brood frames that they were raising bees in at the end, and John said he usually just removes those from circulation – there are a lot of viruses out there and you can't visually inspect the bees themselves to determine what they had. Tony suggested doing a Google Image Search for mite defecation and you can see the white flakes/sediment in the cells that Varroa mites leave behind. If you see that, then you can use a bleach solution (the same dilution you would

use to clean your cutting boards) – Tony added that he hadn't had luck dunking the frames in a 5-gallon bucket, but instead used a squeeze bottle to spray the bleach solution into the frames and then shook out the excess liquid followed by air-drying. As long as the frames are not diseased with American Foul Brood then you should be able to reuse them.

I have a question about American Foul Brood, **do I need to get a Veterinarian to prescribe the antibiotics?** Tony said with AFB, you can "Treat" it with the antibiotic but that's not going to get rid of the spores, and is only really delaying the inevitable – it will mask the symptoms but not cure the disease itself – you're better off burning your stuff. The Apiary Inspector has the right to come in and inspect your hives, and you're better off not taking the chance not infecting the next package you put into your hive, or your neighbors... The equipment is not cheap, but just get new equipment. But my question was how do we get the Teramycin to start with? You can't – you need to get a veterinarian to come out and prescribe it. Tony said he doesn't recommend Teramycin... Well, is there another recommendation? Yes, burn your equipment! There is no way to save that hive so that sometime down the road it won't impact your packages or infect all of your neighbors around you. What about prevention? Prevention is regular inspections and making sure that it's not in your hives. John C. said that he doesn't recommend prophylactically treating for

diseases your colonies don't have. You can't apply Teramycin with your honey supers on because it will get into your honey... I don't have it – well, if you think you might have it then you should contact the State Apiary Inspector, and have them come in and verify it. No, I was just going through one of the supplier's catalogs and they said that if you want to purchase this then you need a vet to prescribe it. Jen said that happened on January 1, 2017. Tom said that he was unaware of any vets in the county that work with beekeepers. What about the Irradiation Program that was run by Worcester County? They no longer offer that. Tony said that there is no scientific proof that irradiation will eradicate AFB spores, so the State Apiarist decided to discontinue the program.

Is there a list of suppliers in the area who sell packages or nucs? Tony said that he put together a Google Doc for his beginner beekeeping class at MIT, which has information on local package/nuc/queen/equipment suppliers and that he would share it with the club and put it onto the members-only forum. ●

Stinging Insect Allergy (Honey Bee)

Dr. Ella Dutta received her Doctor of Medicine (MD) from the University of Texas Health Science Center. She did her Residency at the Emory University School of Medicine, which was followed by a Fellowship at the Mayo Clinic. Dr. Dutta is a member of the Allergy & Clinical Immunology Unit at the Massachusetts General Hospital. Welcome Dr. Dutta!

I am an Allergist, and we do take care of allergies and where bees come in are allergies to food, contact dermatitis from bee products, and of course venom. *Apis mellifera* (Western or European Honeybee) has a world-wide distribution, so there's a lot of information about treatments because it's a world-wide issue in regards to allergies.

As beekeepers you're well familiar with the products that come from our friend the honey bee: (Honey, Royal Jelly, bee pollen, beeswax, propolis) and people can have an allergy with all of these products people. Whether it's a food allergy from ingesting them, or a skin-allergy to propolis which is in so many creams, lotions, and cosmetics; Beeswax is used in surgery, and I've had patients come in with rashes around their surgical site – which is a contact allergy. So, we see these things sometimes, but the usual allergy is from the sting.

I'll start by describing what an allergy is: Our immune system is meant to protect us from invaders – whether that's a virus, bacteria, something infectious, or an irritant in the environment. An allergy is when our immune system reacts to something that should be harmless, but treats it as an invader and triggers a certain form of an immune response that shows up as the allergy symptoms we're familiar with.

In this diagram, the idea is that the pollen from a flower is the allergen (but it could be the substance in the bee venom, a peanut protein, or a drug component). So, the allergen comes into the body (whether it's by inhalation, injection, or ingestion) and goes into the bloodstream where certain cells in the immune system, the B-cells, are plasma cells and are

in charge of making the antibodies - IgG in the case of infection, or IgE (Immunoglobulin-E) in the case of an allergy. For someone who is prone to allergies, perhaps genetically, they may make IgE antibodies to that substance. That IgE antibody, that is specific to recognize that pollen (or that protein, or that food, or that bee venom), circulates through the body and attaches to white blood cells called 'Mast Cells,' and Mast Cells sit in our skin, in our airways, in our gut and lungs, and that antibody attaches to the mast cell and it sits there. If you happen to breathe in that pollen again, or eat that protein, get stung, or take that triggering medication again, and that goes in and circulates – well, that allergen will bind to that IgE antibody sitting on the Mast Cell and causes the Mast Cell to activate and degranulate. The Mast Cell releases Histamine (and Triptase, along with some other substances). When Histamine is released in the airways, in the skin, in the tissues, in the lungs, we get itchy, sneezy, retch-y, and all of these things happen. So that's what an allergy actually is.

The most dangerous form of reaction is 'Anaphylaxis.' That can range from a minor running nose and itch to a more severe reaction called 'Anaphylactic Shock' where the cardiovascular system is involved (with a loss of blood pressure) and have trouble breathing... so it all depends upon how strong the reaction happening in that moment when the person exposed is.

So, what makes a person react more strongly one time than another? It's not that when one has an allergy that every [subsequent] reaction is going to get worse. People are told that with bee stings that it's just going to get worse, and worse – but that's just not necessarily true. If someone is allergic, any time that person is exposed [the reaction] could be mild or it could be severe – there's really no predicting. Some of the reasons why a reaction could be worse is if the individual is an infant, adolescents and young adults seem to have more trouble, pregnant women can be more susceptible to reactions, the elderly and anyone that has other diseases

like asthma or heart disease – so their body is not able to take this reaction happening. Or, with bee sting / venom allergy then certain medications like beta blockers or ace inhibitors (for blood pressure) can make someone more susceptible to a more severe reaction and be more difficult to treat. If you use any kind of drugs, or have alcohol in your system then that can make things worse. If you've just exercised, if you're sick, or anything where you've changed your system then you're a little more susceptible to something going wrong.

Sting Reaction

Depending upon how you define it, between 56% and 94% of all individuals will report having been stung by an insect at some point in life. Now that's not necessarily honey bee, those stings could come from Yellow jackets, hornets, wasps, non-bees... but people do experience stings at some point in their life. The normal reaction is simply warmth in the area, pain, itch, a little swelling and redness, that goes away in a few days – and that's what we expect. That's because the venom, even without an allergy, can activate those Mast Cells without any antibodies in a small way. There's a little bit of a release of Histamine, it happens like mosquito bites and things like that – so you'll get a Histamine reaction but it's very confined and very small. The reason is that antibody forces your system to also recognize the venom also as it flows through. It's just there.

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 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 or by phone at: 617.549.7460

Large-local reaction

Beyond that little site, a large-local reaction is >10 cm. It could even be the whole arm, if you're stung on a finger and your whole arm swells up – even though it's your whole arm the reaction is attached to where you were stung and we consider it a large-local reaction. This is fairly common too, occurring in 2.4 to 26% of individuals (depending upon the study) – but if it's warm and red, itchy and painful, and swollen more than 10cm... the reaction peaks from 24-48 hours. I often hear individuals say they're very allergic to bees because their whole arm swells up, well that's this – it isn't necessarily an allergy. Large-local reactions also take some time to go away, they gradually resolve over 5-10 days. Sometimes large-local reactions are misdiagnosed – if you go into the Emergency Room they might say “Oh, this is an infection called Cellulitis or a skin infection!” But it's the same Histamine reaction as before, only covering a bigger area. You don't need antibiotics in this situation, that's overtreatment. Now people who have large-local reactions aren't necessarily allergic, but the statistics are that there is a risk of a systemic reaction or a full-blown reaction, and the risk of that is between 4-10%. Normally, we don't worry about it, because for the average person, even a 4-10% reaction to even getting stung is not likely – however, with people who are working with bees (or their family members) it's more relevant than that of a normal person.

Sensitization and Tolerance to Allergy

There are a certain number of stings that can protect you versus make you allergic. Can I see a show of hands of people who are allergic to honey bee stings (about 5-6). Okay, what about large-local reactions (large number of members raised their hands). It's interesting, because when I said that when you're exposed to something you may be genetically prone to be allergic, where it can turn into an allergy – but there's also something in-between called Sensitization and Tolerance to allergy. We don't fully understand it, but it's the same idea that you can get used to your own cat in your own house, but you can't go to someone else's house without sneezing. Beekeepers who receive >200 annual stings are usually tolerant.

So there's some kind of threshold where with enough exposure you can be tolerant, but with a lower exposure there's enough to be allergic. There's no real prediction of that, which is why we see a variation where some people can handle it and others not.

Systemic Reactions, the true allergy

Allergies to insect stings affect 5-7.5% of the population and up to 32% of beekeepers. There can also be a higher risk to family members of beekeepers who aren't necessarily allergic. Now, if you are allergic, then with any sting a systemic reaction can occur 50-60% of the time. So we say that each sting has a 50% risk of causing a systemic, or life-threatening reaction. So that is why it is VERY SERIOUS to be allergic to stinging insects. Even so, a true serious reaction only occurs 2% of the time – where there's cardiorespiratory arrest.

- Insect stings cause 40 deaths/year in the U.S.
- Sting reactions account for 20% of all anaphylaxis deaths (that come from a strong allergic reaction, from such things as Peanuts, and Penicillin, and things like that)

Toxic Reactions

There are other reactions that have nothing to do with Histamine or an allergy, and those are Toxic Reactions. If someone is stung by 50 insects at once, 50 stings is toxic – that can cause never symptoms or seizures, kidney failure, or muscle breakdown, or bleeding (hemorrhaging). There are also other kinds of rare immune reactions that can be a little bit different but are serious (serum sickness-like reactions to stings).

Treatments

But it's mainly those allergy reactions that get the most attention. The main thing that we have to emphasize is epinephrine. Always epinephrine! For someone that knows that they're allergic, they need to keep 2 epinephrine auto-injectors on hand at all times. The reason you may need to, and I tell all my patients this – What if you're nervous and the first one flies out the window, or breaks, or something [happens to it] – so

you have a second in reserve. You also need a second injector because the first dose may not be enough. A dose of epinephrine buys you 20-minutes. That 20 minutes will block the reaction, but after 20-minutes the cycle may begin over again. Also, if [the reaction] is very severe, that first dose may not be enough; so within the first few minutes if you're not getting better and you're actually getting worse then you may need to administer the second dose.

That's why you have to go to the emergency room, because those 20-minutes may not be enough, and also because of the side-effects from epinephrine (rapid heart rate, blood pressure, things like that). It's a bolt of adrenaline, so it's safer to use it, even if you didn't need it than to wait and see and not use it. Now, if you don't have an EPIPEN, because the allergy is new, then call 9-1-1 first.

- Antihistamines, like taking Benadryl, those can take 45-minutes to get into your system. That's okay with an itch, or something like that – but Benadryl, or antihistamines like it will never save anyone's life. You don't want to be waiting around for them [to work].
- Corticosteroids, like Prednisone, can take 6, 8, 10-hours to do anything. Those also don't save anyone, those are meant to take care of what's called 'Late Phase Reaction.' There's an immediate reaction that takes place within minutes to a half-an-hour. The later part of this pathway, a bi-phasic reaction, where 8-hours later this whole thing plays

out again and that's what the steroids help to avoid. So that's why an ER will keep a person for so many hours – they're monitoring you for a potential bi-phasic reaction.

Allergists

After this all happens, well then you need to see an allergist!

- Detailed History. We need to know what's going on: What kind of sting was it? How many [stings]? When did the symptoms start? What were they symptoms? Does it sound like a true allergy, or a large-local reaction (where we don't have to worry), or was it a toxic-reaction (where unless you're stung 100 times then it's never going to happen again)?
- Allergy Testing. If it sounds like a true allergy, where with one sting within minutes I'm feeling itchy all over, there's redness, my face is swelling all up, trouble breathing, the whole thing... then we should do some allergy testing to see if this is really an allergy, is this a Honey Bee or Yellow Jacket (which one is it) so we can assess the risk.
- Assessing Risk. If you're allergic, with any sting then there's a 50% chance of getting a dangerous reaction.
- Treatment with immunotherapy. If there is an allergy, there are possible treatments to reduce that risk.

Honey Bee Venom Allergens

What we are allergic to in a bee sting (Honey Bee Venom) – are proteins and enzymes. We can be allergic to proteins, and that's what we're testing for, when we're testing for an allergy – we are looking to detect a response to an antibody that must be there when we apply the venom.

Proteins:

- Phospholipase ad (Api m1)
- Hyaluronidase (Api m2)
- Melittin (Api m4)
- 2 similar glyco-proteins collectively labeled Api m11 (major Royal jelly proteins 8 and 9). Royal jelly also has other enzymes that could cause a toxic-reaction rather than an allergic reaction.

Enzymes: In addition, honey bee venom includes many enzymes:

- acid phosphatase (api m3)
- dipeptide peptidase
- apodase inhibitor 6

these enzymes or inhibitors may affect protein take up

Honey Bee Venom Collection

Is anyone here involved with Venom Collection? We actually get the venom from beekeepers – there are extract companies in Iowa that collect from their own hives, and volunteers in their community. To collect the venom, you have to knock the hive and agitate the bees. The collection device is a grid, over glass. The first few bees that come out onto the

grid are shocked with a little electric shock – so those [guard] bees sting this grid and the bees don't die because the barbs on the stinger don't embed in the glass and the stinger isn't torn from their bodies. So the bees sting the grid and eject venom. The first honeybees also release alarm pheromone that induces other bees to leave the hive and sting the grid. After about 15-20 minutes the hive has been milked and the voltage is switched off. The hive calms down, and the glass is taken away to where the venom is scraped off, filtered, and freeze-dried into a powder. Ottavio F. mentioned that the collection device was created by beekeeper Charles Brandt from Vermont.

Honey Bee Venom Extract

So the venom extract is standardized, a lot of the extracts that we use for other allergies (grass, dog, et cetera) aren't standardized, so we don't know how much protein is in those – but the venom from Honey Bees is highly standardized, so we know that each final container vial contains 100mg of freeze-dried venom to be reconstituted to a volume of 1ml for a concentration of 100mg/ml. The FDA, and other agencies monitor this and certify that the mixture is safe... (commercial allergen extract manufacturers are required to report total protein content, and the concentrations of Hyaluronidase and Phosolipase a2) which is why last year we actually had a shortage of venom extracts because there was some problem along the processing route – so there was a shortage, and so for many people their treatment with allergy shots was interrupted – which is a big controversy because if you interrupt your treatment then there's risk. Fortunately, that was solved!

Allergy Skin Testing

Now for allergy skin testing, using that venom in solution, we prick the skin. We're trying to get just under the surface of the skin (like a sting) to apply some of that venom to see whether within 15-minutes we get that itchy red spot (those are positive reactions). That's called prick testing, and if that's negative then we'll go to a stronger test with various concentrations and dilutions which is with a needle, again barely under

the skin (but in a different layer of the skin) to see if we get a positive reaction. So there's about 5-steps involved, at different concentrations to see if you're allergic. Because people call all sorts of things "Bee," we also test for Yellow Jacket, Yellow Hornet, White Wasp, Bald Faced Hornet, along with Honey Bee. So we test for those five to see what someone is allergic to, and it's usually Honey Bee or the others; while in some cases it's both, it's usually one group or the other. Honey Bee is very special, and different from the others.

Blood Tests

We also do blood tests [ImmunCap (ELISA)] to detect/quantify the amount of that IgE antibody. Both tests are important, because with the blood test and the skin test – one may detect the allergy, and one may not. So we like to be sure. Now, those Mast Cells I spoke about earlier can release Histamine, and Tryptase. Now Tryptase doesn't really do anything, but it's something we can measure in the blood and capture it. Right after a reaction (within 90-minutes) that Tryptase is high and that can help determine if this person has had an allergic reaction. But even when a person is feeling fine, with bee stings (and wasps, and all that) this Tryptase test can uncover a rare disease called Mastocytosis. With Mastocytosis, people have too many Mast Cells and first reaction they ever have is with a bee sting or something in the environment. We always check for that, because if Tryptase is high then the patient is at risk for worse reactions to many other things, eventually it could be a form of leukemia, so that's why we test for the Tryptase levels. ?

If I was stung, and had that rare Mastocytosis, all we're going to see out in the field is a reaction – is the treatment still Epinephrine? Yes, the reaction will still look the same (but it will be one of the more severe ones), and those people are at risk for severe reactions. In terms of frequency, for the case of severe allergic reaction, generally do you see more people allergic to Yellow jackets than to Honey Bees, or is there a particular Vespid that causes a higher frequency of allergy? Yellow Jacket is the most common form of insects for stings, and therefore it is the most common insect for allergies. yellow jackets are the most aggressive in

your garden, they come up out of the ground – they are the most common sting and the most common allergy.

If I'm prone to the large local reactions, is it correct that I do not need to have an EPIPEN handy? Generally, but there is a caveat for beekeepers – because of that 4-10% risk of it becoming systemic – someone who is likely to be stung may reach that statistic. But just having that large local reaction doesn't need treatment, and we don't even test normal people because that 4-10% chance of reaction to a sting doesn't really balance with Immunotherapy and the chance of reactions to treatments. For the Large-Local reaction, could you talk about the efficacy of Benadryl taken orally versus topically? Is topical application actually effective? Is there any difference? Doctor Dutta said that there is not that much difference because you're applying it topically directly to the site. But [taking Benadryl] orally is probably better from the sense of preventing it from getting worse. A quick note that Benadryl isn't any better than any of the other Antihistamines, in fact those other antihistamines (Allegra, Claritin, Zyrtec, and others that are less-sedating and last 24-hours) are probably better, but don't work any faster.

Don suggested (especially for new beekeepers), that once your stung, the best thing to do is to take a hive tool and immediately remove the stinger from your skin, and Dr. Dutta agreed because the venom continues to be injected, so the faster you

remove the stinger the lower the amount of venom injected. Don also mentioned using a smoker to get some smoke on the site of the sting to drown out any alarm pheromone released. Dr. Dutta said that she read that even if you jump into a swimming pool, the water won't be washed away because the alarm pheromone is so strong.

What is Venom Immunotherapy?

Allergy shots for stings.

- Allergen immunotherapy for hay fever was discovered in 1911 in London, where they began treating for grass allergies – and we didn't know anything about IgE, or why it was working, but it worked.
- The first report of venom immunotherapy was in 1925, using the whole crushed body of a wasp.
- In 1978 studies showed venom extracted from venom sacs was highly effective
- In Venom Immunotherapy, you take venom (the natural substance) in an extracted and dilute form and inject it in tiny concentrations (a thousand-fold dilution to start with), and gradually increasing doses of the insect venom over time. You are sneaking it in to induce immunological tolerance.
- Given by sub-cutaneous injection at an interval of several weeks for up to 5-years (or indefinitely...)
- Immunotherapy works through complex immunological mechanisms.

Spaghetti Dinner

04/27, 6:30 pm-9:00 pm, First Religious Society Hall, 27 School St. Carlisle

The club will provide the main course, but we ask members to help with the rest:

<u>Last Name:</u>	<u>Please bring:</u>
A-C	Dessert
D-G	Salad
H-L	Beverage
M-R	Side dish
S-Z	Bread

RSVP by Monday 4/23 online on the member's website, or by email to Tom Fiore: president@middlesexbeekeepers.org if you plan to attend.

An optional donation of \$5/person to help defray costs would be appreciated.

Finally, please remember to bring your own plates, silverware, glasses and/or cups!

- Immunotherapy takes the natural substance diluted to tiny concentrations and gradually increasing dose. Sneaking it in slowly and gradually protective antibodies versus allergic antibodies. Does it work? Yes, it works! What about for Hayfever? For Hayfever, 85% of people improve (and some are cured for the most part). For stings, that 50% chance of a life-threatening reaction goes down to 3%. Not zero, so you still need to be careful and have an EPIPEN. The standard care is to offer Venom Immunotherapy.

Venom immunotherapy is recommended for all patients with a positive reaction, or a positive test (a history of a systemic reaction to an insect sting and a positive specific test for IgE to venom allergens) – but not necessarily for children 16 years of age or younger if they only had skin systems. A child that gets hives, or lip-swelling, may not be a full-blown allergic reaction (we would consider that for an adult). That’s because children are much more prone to show hives as a reaction to something in their system. For kids, the chance of having hives again (future cutaneous systemic reaction) is about 10%, but the chance of children having a life-threatening severe systemic reaction is <1% - so the risk of having a reaction to Venom Immunotherapy is higher, and not worth the risk.

We also don’t recommend it for people that only have Large-Local reactions, except for people that have unavoidable exposure (the risk of 4-10% could move onto a bigger allergy).

Protocols for Venom Immunotherapy

So what we do, is to start with tiny amounts and build up over time. There is a “Rush Protocol” where there is a rapid build-up with injections every 15 minutes over the course of a single day. We start with a hundred-fold dilution and build up to full-strength (not quite a full-dose). Then we administer a full-dose once a week for four weeks – so in four weeks you’re protected. So you go from 50% risk to being protected.

The “Rush Protocol” replaces the traditional/gradual build-up of dosing with injections given 1-2 times per week over the course of several months. The rapid/rush version is now considered to be much better – and is just as safe.

The Maintenance dose is then gradually extended to be administered once every 4 weeks; The maintenance dose is 100 micrograms of venom (the honey bee sting typically contains 50 mg of venom). So, you’re getting 2-stings every 4-weeks. After a year of monthly injections we extend the maintenance dose to once every 6-weeks, then after a year every 8-weeks. We treat for a minimum of 3-years for someone who is low-risk, or indefinitely for anyone with Mastocytosis, continued risk, or someone that had an extreme reaction to the immunotherapy protocol (meaning that they’re very, very sensitive).

Is the venom denatured or altered in any way? No, once collected it is filtered and then freeze-dried. It is not heated or altered, which would affect the active enzymes and proteins in the venom. These enzymes are the reason why we can’t make combined shots of Honey Bee Venom and Yellow Jacket Venom – it’s because Honey Bee Venom has much more activity with these enzymes and they would break down the other items (components of Yellow Jacket Venom). Honey Bee Venom is a biologically active substance.

Reactions to Immunotherapy

The only drawback of doing the allergy shots for immunotherapy is that you can have reactions. Local reactions are common. You can have a Large-Local reaction, and even a systemic reaction. That’s why everyone receive a shot has to stay in the allergy office for 30-minutes – to make sure there are no signs of reaction, and if so then we can take care of it. Dr. Dutta stated that she couldn’t find a statistic for venom, but with hay fever (and environmental allergies) there’s a mild reaction in 1:1,000 shots, and death in 1:2,500,000 shots. So we are prepared, even though the chance of something happening is rare. I always tell people that your chances of getting struck by lightning is 1:600,000... You want to make sure you’re following all of your precautions (taking an antihistamine before and after the injection).

One of the reasons that it could be difficult to treat is if a person is on blood pressure medicines (Beta Blockers, or Ace Inhibitors). Beta Blockers block Epinephrine, so you should definitely use the 2 EPIPENS,

and possibly be taken off the Beta Blocker – and if you need the allergy shots then you need to weigh the risks and benefits. Usually we go ahead, because the risk of getting stung out there in real life is high versus the chance of having a reaction to the shot with the Beta Blocker. Ace Inhibitors increase the risk of having a reaction to the shots, and maybe also the severity in real life – so we try to get people off of these if possible. But if not, know that they could have a more severe reaction.

Effect of Venom Immunotherapy

50-60% down to 3% chance of reaction per sting and that gives a lot of security and safety. Now when we say that, the future risk of a reaction to a sting is 10% - so when you finish the course of treatment that risk goes from 3% to 10%, but not all the way back up to 50%, and that may be why some patients might need to continue indefinitely:

(a near-fatal reaction when they started VIT, reaction during the treatment (honey bee is the stronger allergy than the others and is more dangerous than Yellow Jacket and the others)

Underlying medical conditions where they wouldn't be able to withstand a sting

Conclusions

- Reactions to insect stings range from a mild, painful local reaction to larger prolonged reaction, to life-threatening anaphylaxis.
- Testing and diagnosis of an allergy can guide avoidance or treatments

- All patients with systemic reactions should keep Epinephrine on hand
- Venom Immunotherapy is recommended for adults with systemic reactions and for children with reactions involving more than just skin symptoms
- Venom Immunotherapy (VIT) lowers the risk of systemic reactions to stings.

Members' Questions

Why couldn't we just get ourselves stung to build up a tolerance? Well, it's the balance between the right amount of exposure to create that tolerance (and become desensitized) versus the amount of exposure that creates that allergy. When you're not getting that monthly sting, only one every 6-months, you've lost some of that tolerance. So if you're going to have frequent exposure and more chance of a sting, statistically one of those stings might be dangerous. A random sting won't give you that same protection because it's not timed right to maintain tolerance. Tony mentioned that if you're stung and not leaving the stinger in then you're not getting the full amount of venom from that bee's venom sack.

You had honey listed as an allergen, but **I always thought honey didn't have any allergens?** Dr. Dutta said that it's rare, but it is possible to have a food-allergy to honey. Is it the pollen in the honey? Dr. Dutta said that the pollen in honey is interesting, the concept

continued next page...

The Hive

The colony grew in my body all that summer.
The gaps between my bones filled
with honeycomb and my chest
vibrated and hummed. I knew
the brood was healthy, because
the pheromones sang through the hive
and the queen laid a good
two thousand eggs a day.
I smelled of bee bread and royal jelly,
my nails shone with propolis.
I spent my days freeing bees from my hair,
and planting clover and bee sage and
woundwort and teasel and borage.
I was a queendom unto myself.

By Jo Shapcott

is that there's pollen in there in small amounts, and like allergy shots you get a low dose of all the pollen – but remember which pollens bees collect: they don't go from Ragweed plant to Ragweed plant, or to grasses (these are the wind-borne pollens) but focus on flower pollens. You're not getting a significant amount of Ragweed pollen or grass pollen in honey, and there's no real standardization of the triggering pollens that you're going to get in local honey to get an effective treatment.

There's no proven science that says "If you eat local honey you're somewhat protected"? No, and in fact there's a research study that compares local honey, commercial honey, and some placebo corn-syrup thing and there was no difference. The idea is that there's health benefit to the honey itself, but not possible allergy relief.

What is the allergen in honey that would make you allergic to it? It's not the sugar(s), but some of the enzymes in there, and that's why it is very difficult to diagnose – all honey is different. There are seasonal varieties, different locations, so it is difficult to get a test that matches that, and to understand that – there are a lot of things about allergies that we don't understand. Have you had anyone with a honey allergy come through your office? I have had one, and it's bad so she just avoids it... the same person had a single grain of bee pollen and had a complete reaction – a skin reaction (beeswax is used in some surgical procedures), but when she ingested it she had difficulty breathing – but they're not allergic to venom.

You said earlier that there are 40 deaths in the United States by insect stings – deaths by anaphylactic shock? Yes. **Were those deaths entirely Honey Bee stings?** No, they include all insect stings, not just honeybees.

We're all hobby beekeepers, and it's not likely that we're going to get 200 stings a year – are you saying that the stings that we do get (dozen, or a couple of dozen depending upon how careful you are) as hobby beekeepers, **we're not really developing any lower sensitivity to bee stings as a result of beekeeping?** That's what the research seems to show – that we don't know exactly what that threshold might be, but there are also some reports that the beekeeper that gets a dozen stings is less at risk than the family member that gets 1 or 2.

I've heard that a well-known commercial beekeeper state that he was getting stung enough that he was essentially immune to it, but his daughter went into anaphylactic shock and they took her to the hospital and she was okay – but in talking to the allergist **apparently it wasn't even stings, but the daughter's exposure to the propolis (and all the other junk we carry around on our bee suits and bee tools) that a family member will get exposed to – is that correct?** Dr. Dutta said that she doesn't think so, because those things cause a contact allergy (rashes) and that's a totally different mechanism and that would never be a life-threatening reaction. Eating the honey or the food products is taking it into your system that way, so just brushing up against clothing would never do that. It has to be a sting? Yes, the venom has to be injected – she had to have a certain number of stings along the way.

You said that there might be a genetic component, where some people might be more sensitive? Yes, to have an allergy at all is genetic. 30% of people have some sort of allergy – but in a family that can mean somebody is allergic to cats, someone else is allergic to yellow jackets, another person is allergic to ragweed... but there's no predicting the particular allergy. So just because one family member (your brother for example) is allergic to honey bee stings, does not increase the risk to you of that particular allergy.

Is there any information on what percentage of those 40 sting deaths are caused by honey bees, wasps, et cetera? I'm sorry that I don't have that information, but **what we do know is that honey bee stings can be the most severe**, but that yellow jacket stings are the most common. How severe are wasp stings? Somewhere in between – wasps don't cause as many stings as yellow jackets but their stings are more potent. With honey bee stings, there's 50mg of venom; Vespid stings contain 2-20 mg of venom per sting.

As a beekeeper that's not allergic, does it make sense for me to buy EPIPENS? Also, if someone is allergic and I administer the EPIPEN – the question is should I, because I'm not an EMT? What's your advice? Should we get EPIPENS, and should we learn how to administer them?

EPIPENS are prescriptions, so doctor has to prescribe them to an individual. As a doctor, I suggest to keep your extras around, but I can't prescribe them to someone I've never seen. Now, if you administer an EPIPEN to somebody, then you have the "Good Samaritan" protection – if you're trying to help someone in good faith then can't be sued.

Jen R. mentioned that **if you have an EPIPEN, you should learn how to use it.** A member of the club was stung and her husband went to use the EPIPEN, but he had it upside down and he shot himself in the thumb – so they both got to ride in the ambulance to the hospital! Dr. Dutta said that the packages come with 2 EPIPENS and a trainer, and instructions. What you want to do is hold it gripped in your fist, you don't want your thumb on the end specifically because you might have it upside down. Hold it in your fist and remove the top cap, so that it is now active. You don't need to swing it, just press it – and the best place is the side of the thigh. It will go through a layer of clothes – it will click and it will inject into the muscle, and it does hurt – but you hold it there for a count of 10 (the EPIPEN will administer the dose of epinephrine within 3-seconds, but count to 10 to make sure you get the full dose). Then take it out, and call 9-1-1.

I heard that there's a new product going through the FDA pipeline, with a powdered epinephrine dose rather than the liquid, whose expiration date is 5-years rather than the 1-2 of the liquid – have you heard anything about

it? There's not a formal product with approval yet. **What is the expiration date of the EPIPENS available now?** About a year. Those cost \$600? Yes, the manufacturer did increase the price and the price without insurance is \$600. The company does make a 'generic' version which is the same thing with a different sticker, that's \$300. What's the real expiration date? The date on the packaging is a year, but there was a study that came out about a year ago where they analyzed the active ingredient of epinephrine in these pens – and up to 5-years there was still up to 85% active ingredient, and up to 3-years it was 100%.

Why is it that a honey bee sting hurts a little, but when I get stung by a white faced hornet it hurts like hell for a couple of days? It's the component(s) in the venom – there are all of these different enzymes. With honey bees, there are more of those allergenic ones, but the white faced hornet might have more of the destructive enzymes that don't create antibodies. It's like pouring acid on your skin, it hurts (but doesn't cause an immune reaction).

With family members, is there an increased risk to them because they're more likely to be stung? Yes. Is there any increased sensitivity to them, being stung 3-4 times a year whereas a normal person wouldn't get stung? It doesn't matter when, or where, **it's that the number of stings increases (statistically) your chance of a reaction.** There are people who are more prone to an allergy, that have never been stung so they'll never know. ●●

Cleaning your Tools and Smoker

When tools are covered with wax and propolis, there's no need to worry! All you need is boiling water, a piece of steel wool, a pair of tongs, a disposable aluminum pie plate or tray, some oil, and a plumber's torch.

Boil water, fill the aluminum plate and soak the tool(s) for a minute or two. CAUTION, the tools will now be HOT, so use tongs to pluck the tools out of the hot water. The sticky mess will easily wipe off with steel wool after soaking. Finish by oiling the tools with a food-grade oil (I like coconut oil).

Depending on usage and fuel source, the inside of your smoker may be coated with a layer of creosote, this can be removed easily by burning it off with a plumber's torch.

OFFICER ELECTIONS ON 04/27

04/27 Annual Meeting

April 27th is our Annual Meeting – the official meeting of our club as a nonprofit, and at that time we will have **formal elections of our officers and directors**. John and Cheryl Mandler are serving as the nominating committee, the positions are President, Vice-President, Clerk, Treasurer, and 2 Directors – **altogether a board of 6**. If you are interested in volunteering, please contact John and Cheryl Mandler at: johncheryl58@gmail.com

MCBA Bylaws, Article III, Officers

Section 1 The officers of this Association shall be a President, a Vice-President, a Clerk, a Treasurer and two delegates to the state organization, who together shall constitute the Board of Directors. The President, Vice-President, Clerk, the Treasurer and the **two delegates [to the State Beekeepers Association]** shall be chosen by ballot at an annual meeting and shall hold their offices for two years.

MCBA Bylaws, Article IV - Duties of Officers

Section 1. **The President** shall perform the usual duties of such office. He shall also be the Chairman of the Board of Directors. He shall be responsible for the general activities of the Association, including the appointment of all committees, and shall report at each annual meeting on the achievements of the past year and offer suggestions for the next year.

Section 2. **The Vice-President** shall assist the President in his duties, and in his absence shall assume the duties of the President. The Vice-President shall be responsible for arranging and coordinating programs for regular and special meetings.

Section 3. **The Clerk** shall keep an accurate and permanent record of the meetings of the Association, shall maintain an accurate record of all current members of the Association, shall provide notice of meetings, and shall conduct all regular correspondence, as directed by the President or the Board of Directors. The Clerk or his/her designee shall be responsible for the newsletter and any publications of the Association.

Section 4. **The Treasurer** shall collect all moneys due the Association, and keep an accurate and permanent record of all financial activity. The Treasurer or another member appointed by the President shall collect all dues. The Treasurer shall present all bills to the members for their approval, and pay all properly approved bills drawn on the Association.

What's Blooming Now?

Common Name	Scientific Name	Value	Plant Type
MARCH			
Crocus	Crocus	Pollen	Bulb
Japanese Witch Hazel	Hammamelis Japonica	Pollen & Nectar	Shrub
Skunk Cabbage	Symplocarpus Foetidus	Pollen	Herbaceous Perennial
APRIL			
Andromeda-Fetter Bush	Xolisma Lucida	Nectar & Pollen	Evergreen Shrub
American Aspen (Poplars)	Populus Tremuloides	Pollen	Tree
Americam Elm	Ulmus Americana	Pollen	Tree
Ash	Fraxinus spp.	Pollen	Hardy Tree
Beech	Fagus Grandifolia	Pollen	Tree
Birch	Betula spp.	Pollen	Tree
Blackhaw	Viburnum spp.	Nectar & Pollen	Hardy shrub
Bloodroot	Sanguinaria Canadensis	Pollen	Herbaceous Perennial
Box Elder	Acer Negundo	Pollen & Nectar	Tree
Cassandra	Chamaedaphne Calyculata	Nectar & Pollen	Shrub
Dandelion	Taraxacum Officinale	Nectar & Pollen	Herbaceous Perennial
Deutzia	Deutzia Lemoinei	Nectar & Pollen	Shrub
Gill-Over-The -Ground	Nepeta Hederacea	Nectar & Pollen	Herbaceous
Hazelnut	Corylus Americana	Pollen	Shrub
Marsh Marigold, Cowslip	Calthe Palustris	Pollen	Annual
Narcissus	Narcissus	Nectar & Pollen	Bulb
Red Maple	Acer Rubrum	Pollen & Nectar	Tree
Shadbush	Amelanchier spp.	Nectar & Pollen	Shrub or Tree
Silver Maple	Acer Dasycarpum	Nectar & Pollen	Tree
Spicebush	Benzoin Aestivale	Nectar & Pollen	Shrub
Tag Alder / Speckled Alder	Alnus Incana	Pollen	Bulb
Tulip	Tulipa	Pollen	Bulb
Willows (Many Species)	Salix spp.	Pollen & Nectar	Small Shrub to Trees

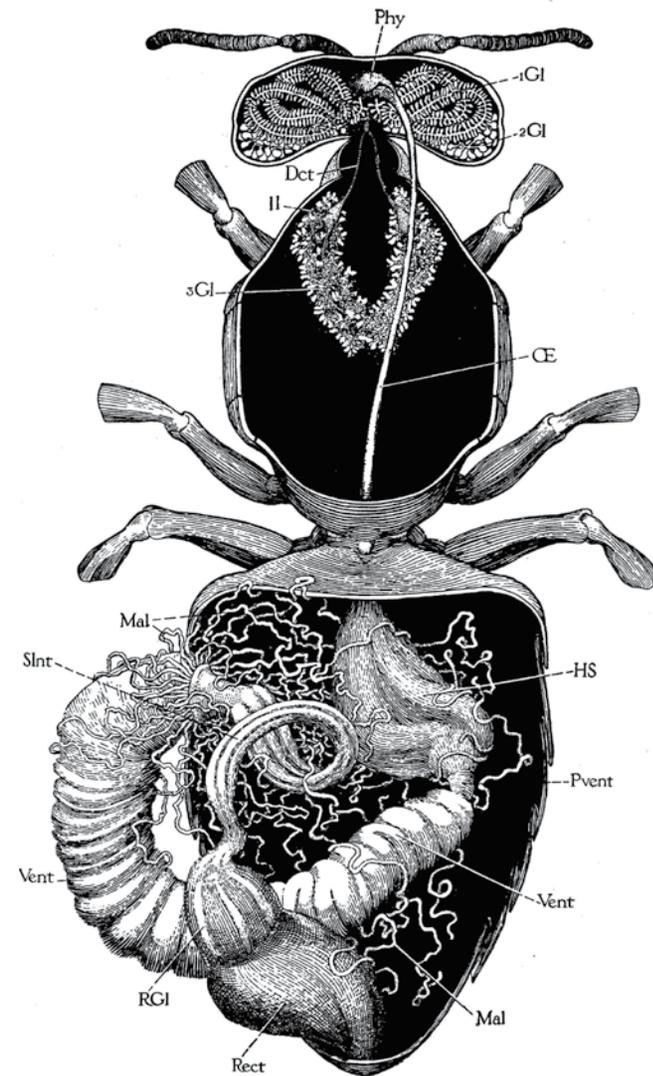
Information for **What's Blooming Now?** was taken from **Nectar and pollen plants of Massachusetts as observed in the central Connecticut Valley region** Special circular #27, Revised F.R. Shaw, Department of Entomology, University of Massachusetts, 2-2-56

Introductions

MCBA President thanked everyone for coming out on a dark and stormy night. As is our tradition, we like to have people here for the first time stand up and introduce themselves – telling us where they live and where you are in terms of beekeeping:

- Chuck from Dracut, haven't started beekeeping yet but a friend has a hive at my house and got a whole bunch of honey out of the hive and I enjoyed it so much that I've built a hive of my own and plan on starting this year.
- Will from Ayer, no bees yet (can't have them where I live now) but hoping to have hives one day – just want to listen and learn from experienced people here and elsewhere. Tony P. suggested going to the members-only forum on the website, as we have requests from the public to place hives on their land. Not sure if I'll start up this year, thinking of just reading and learning and starting up next year. Tony said there's nothing wrong with that, he spent a year reading, learning, and going to meetings and hive openings before he got bees.
- Chris from Billerica, my father has bees and I've helped him, so now I'm getting my own.
- Frank & Chris from Westford, we're restarting (Tom interjected and said 'That happens) – we tried for first time last year, and had tremendous success for the first month... then one day the bees packed their bags and went away. We thought we could do it ourselves, reading *Beekeeping for Dummies*, but we probably should have gotten more support.
- Janice & Bill from Pepperell, I've been interested in beekeeping for quite a few years, but last year someone was giving up beekeeping and asked if we were interested in taking his hives. So we've worked with Rick Reault, and we're here today because of the course we're taking with him. We thought we had a great, healthy hive but by October they were all gone.
- Dee from Mashpee, a friend of Janice's. I've been living vicariously through Janice, but I'm getting my start here Tonight.

Alimentary Track. From Snodgrass's *Anatomy of the Honey Bees*



ANNOUNCEMENTS

It's Membership Renewal Time

If you haven't renewed yet, Ed Culkin is the Club Clerk and Membership Coordinator – he attends all of the meetings so you can bring in a printed form and check, or you can renew your membership online – but please remember to fill out the full form, submit it, and then go to PayPal to pay the membership fee.

04/27 Meeting

April 27th is our Annual Meeting – the official meeting of our club as a nonprofit, and at that time we will have formal elections of our officers and directors. John and Cheryl Mandler are serving as the nominating committee, the positions are President, Vice-President, Clerk, Treasurer, and 2 Directors – altogether a board of 6. **(Editor's Note: A number of officers are hoping to step down)** so if anyone interested in taking on a position as an officer or director, or if you think there is someone out there that should be, please get in touch with John and Cheryl. All info will be on our internal website (members-only section). Or, contact President@middlesexbeekeepers.org for John and Cheryl's email address.

April 27th is also our Spring Spaghetti Dinner, so if you're available to help set-up or clean up, please contact President@middlesexbeekeepers.org over the next month or so.

Outdoor Meetings and Hive Openings

After our April Meeting we will be meeting at members' homes (for the months of May through September) and we're looking for people to host those meetings. For those of you who are new, it is a Saturday afternoon from 1-3pm and the meeting is run the same way that an indoor meeting is run, except instead of having a speaker after the bee talk, we have a hive opening. So everyone gets to see what is going on inside a hive of your choice in your backyard. You also get the benefit of having some of the better-informed members of the club taking a look at your hive for you. Contact President@middlesexbeekeepers.org if you're interested in hosting a meeting (the meeting dates are 05/26, 06/23, 07/28, 08/25, and 09/22)

Association Meetings

Saturday 3/3 the Worcester County Club is holding their all day "Big Name" conference at the Knights of Columbus hall in Leicester, MA. Jay Evans (USDA Beltsville Bee Lab), and Keith Deleplane (Univ. of Georgia) will be the presenters. More information can be found at <http://worcestercountybeekeepers.com/>

Saturday 03/10, the Southern Adirondack Beekeepers Association is having their Annual Seminar in Malta, NY. Featured guest speakers include Diana Sammataro, Samuel Ramsey, Michael Palmer, and Scott McArt. More information can be found here: <http://adirondackbees.org/meetingevents/annual-seminar/>

Saturday 03/17, the Massachusetts Beekeepers Association will be holding its spring meeting at the Topsfield Fairgrounds from 8am-3:30pm. The speakers include Kirsten Traynor and Heather Mattila. Information about the meeting can be found on the MassBee website: <https://www.massbee.org/events/spring-meeting/>

Legislative Updates

Legislation on Neonicotinoids is still in limbo, when we have more information we will put it in the members forum.

There are draft apiary regulations out there that we all should be aware of, and we should all weigh in on when they are published for public comment. The draft regulations that are out there now (they can be found on our website in the members-only forum) were developed after significant public input over the past year or two, after Governor Baker issued Executive Order 562, which required all agencies to perform a comprehensive review of all of their regulations.

Tom Fiore said that the regulations out there now are disappointing in a number of ways (Tom said that he's editorializing), they are not very well written, they don't have any teeth to them, and the most controversial aspect of the new regulations is that there is a requirement for everyone to register their bees. There have been two 'stakeholder' meetings that have been focused just on the beekeeping community: the last stakeholder meeting was last night (02/22)

in Worcester. MassBee has taken the lead in communicating with all the county beekeeping clubs and encouraging people to participate. After the meeting that occurred last night, there will be a second draft published and a public notice will be issued for the timeframe for submitting comments, and there will be at least one public hearing where verbal testimony and comments will be taken by the State. After that the regulations will be promulgated.

Tom encourages everyone to take a look at the regulations, and keep an eye on the members forum for information about the public comment period and the public hearing. This is going to be the last chance we have to try to have any impact on the regulations that we'll have to live with for some years to come.

Alix B. added that she wasn't sure of the deadline for public comments on the new regulations. The most controversial new regulations is the requirement to register your bees – which a lot of people don't want to do... there are several other things that aren't attractive, including a requirement that you need to report to the state if you have a bee disease. Now you could take to mean that every time you have Chalkbrood you need to call the State and report it – no one is going to do that, and I don't think it should be in the regulations.

Should we file comments as a club, or the board of directors? Tom said that we had filed comments on the original regulations that turned into what we now have. He admitted not having read the comments in parallel with

the current draft, but his sense is that they didn't take a lot of our comments. Tony mentioned that he didn't remember the requirement to register your hives in the first draft, and was informed it wasn't – it's a new addition. Tom said that's something that they CAN NOT point to and say "This is something that the beekeepers wanted.

Alix said that the question she asked [last night] was that the Mass. Apiary Inspection Program was designed to eradicate American Foul Brood (AFB) and that's the only thing they're looking for because it's a highly contagious bee disease. Alix asked if there was any increase in AFB, and Kim Skyrn (The State Apiary Inspector) said "That's a very good question," but she didn't have an answer. Alix said that the indications on the State website is that there isn't [an increase in AFB in Mass.], and yet they want to cast this very broad net and massively increase the Apiary Inspection Program despite there being no need to do that.

Are there any charges or fees to register your hives? Alix said that you must be psychic, because that was her first thought too. Right now there are no fees, but Dollars to Doughnuts, if we have a mandatory registration, then there will be mandatory fees. Tom added that there's no fee at this time (not yet), but there's also no enforcement authority for any of the other requirements that we might want there to be enforcement for – there's no penalty authority, there's no order authority. Other than the fact that they can burn your hive if you have

Did you Know?

Sugar and Energy Requirements

- Bees will consume about 8-pounds of honey to produce 1-pound of beeswax
- Beeswax production in most hives is 1 1/2 - 2% of the total honey yield
- The energy in 1 ounce of honey is enough to power one bee to fly around the world
- A resting worker burns 0.7 mg of honey per hour; a flying worker burns 11.5 mg of honey/hour
- The energy that comes from a full honey stomach can be up to 500 joules (0.5 BTU)
- 1mg of honey contains 12 joules of energy; 2.7 pounds (1kg) of honey can produce 11.4 BTU or 12,000 kilojoules
- Over 2 million joules (1898 BTU) are burned over the winter to warm the cluster
- It takes heat equivalent to a continuously burned 20-watt tungsten lightbulb to maintain the brood nest temperature
- One colony's foraging force (over 100,000 bees in the summer) carries between 3-4 million kilojoules of energy back to the colony

AFB. There were maybe 2 cases of AFB in the state last year. Ottavio F. said that he read the latest version and it doesn't have any teeth – there are lots of requirements (in regards to disease, and so on) but there's no way to enforce that. In Ottavio's opinion when the State Apiary Inspector goes to the Governor for more money for more inspectors, he won't do that because there's no money. The reason for the Governor's Executive Order was to remove the deadwood (remove useless agency bylaws) and increase government efficiency.

Alix said that the MassBee meeting on March 17th that everyone is invited to. MassBee will probably be asking the membership whether they want to draft comments (Alix is also chair of the MassBee legislative committee) and if so, then MCBA could join in or expand upon those.

Jen R. said that you have to read the language of the proposed regulations very carefully – in one section the wording is “Beekeepers should register their hives” and elsewhere “Beekeepers must register their hives.” There's a big difference between may register, should register, and must register.

A member said that there's a big difference between a hobbyist with a few hives in their backyard and a commercial beekeeper with lots of hives making a profit, and asked if there was a difference in fees for that? Tom said that nobody is paying anything at this point, but it's difficult to discuss a particular issue when this particular draft doesn't present anything... but we all know where it's going. What do other states do? Do they have the same regulations? No, it varies greatly from state to state. Tom said that as a kid growing up in Connecticut, they had to register their hives at the town hall. In Massachusetts it varies, some cities and towns have pretty onerous regulations. [Editor's note: there was some back and forth regarding previous points].

Alix said that she's not going to ignore a bad law just because there's no enforcement avenues right now. Ed C. said that you have to watch out for stepping stones, they're building a platform that they can expand upon. Ottavio said that if Kim gets through what she wants to get through, more inspectors and so forth, then there will have to be fees to cover that. Alix said that it will either be fees, or tax dollars, either way it's something we don't want. There's no AFB problem to justify it. More to come...

SWARM LIST

Swarm alerts are sent out by both email and text messages to your cellphones. In order to send text messages I'll need an email from you to Alix Bartsch (the MCBA Swarm Coordinator, swarms@middlesexbeekeepers.org) with the following information:

1. First Name
2. Last Name
3. Towns interested in
4. Cell phone number
5. Cell phone carrier (AT&T, Verizon, or whatever)
6. Email
7. Are you interested in bee removals (from trees or buildings)?

Notice of the Annual Meeting of the Middlesex County Beekeepers' Association, Inc. (by Ed Culkin, Clerk)

On April 27, 2018, the Middlesex County Beekeepers' Association, Inc. will hold its Annual Meeting at the First Religious Society Hall, 27 School Street, Carlisle, MA. The meeting will be held during the MCBA's annual spring dinner which begins at 6:30 p.m. All current members of the MCBA are invited to attend and participate. (If you have not yet paid your dues for 2018, you may do so before by visiting <http://middlesexbeekeepers.org/become-a-member/> There you will be able to renew and pay online or download our current membership form to bring to the meeting). The meeting agenda is:

1. Call to Order
2. President's Report
3. Treasurer's Report
4. Election of Officers and Directors
5. Old Business
6. New Business
7. Adjourn

Bee Talk

For the last few years, a lot of people thought doing the right thing and treating hives nonetheless lost what appeared to be very healthy and robust hives in early Fall or by Thanksgiving. Some just cleared out, some died out, there appears to be plenty of honey... It seems like a mystery because a lot of people said "I treated my hives. How did this happen?" A current theory for what happened is that although you may have treated for mites, the treatment might not have been as effective as you would have hoped. If you didn't do a follow-up assessment of the mite treatment, then you really had no way of knowing how effective that treatment was. You're getting packages now, you don't want to make some of the same mistakes that you made in the past, you want to at least eliminate some potential areas of trouble this year so that bees will be healthy. You get these packages, they're 3-pounds of bees, and there's no brood, and they're in a fairly compact area, **what are the options for mite treatment at the outset?** One member answered that packages from Rick receive an Oxalic Acid dribble. Another said that he was thinking of giving his packages an Oxalic Acid mist spray. Apparently first you're supposed to feed them first with sugar water, so it fills up their stomach, before you treat them while they're still in the package. How does spraying them penetrate the center of the cluster? Aren't you only treating the outer shell of bees? Jen said that you could hive the package, there's no brood yet... she added that feeding them is a good idea. A couple of hours later you could dribble the treatment between all of the frames so that you wet all of the bees. Jen thought that Rick sprays the packages because he's down there when the producers are putting them together. Ottavio said that there's no point to spraying the bees while they're still in the box, wait a couple of weeks to let them get settled in the hive before a follow-up treatment because they've already gotten one. Do you think that packages are treated? That's what Rick has done in the past. Tom said that Rick's packages may be sprayed, but he doubted other suppliers may have done an initial treatment, so unless your vendor specifically says that the bees have been treated then you have to assume that they have not been.

Autumn Collapse / Disappearing Disease

The disorder is now officially known as 'Autumn Collapse', but has also been called 'disappearing disease' because no sick or dead bees could be found in failing colonies.

H. LEN FOOTE

Supervisor of Apiary Inspection

Calif. Dept. of Agric.

Sacramento, Calif.

DURING RECENT winters beekeepers in some parts of California have been puzzled by what appears to be a rather rapid disappearance of bees from their hives. Strong colonies, heavy with honey and pollen, apparently at their prime for overwintering, suddenly start to decline for no apparent reason during autumn, and collapse within six weeks. The disorder is now officially known as "Autumn Collapse" but has also been called "disappearing disease" because no sick or dead bees could be found in failing colonies. The disorder has caused loss of up to 90 per cent of the colonies in affected apiaries. Similar losses have occurred in parts of Louisiana, Texas, Alabama and New Mexico.

The disorder was first noticed during the winter of 1961-62 when affected colonies were found at a number of locations in the Sacramento Valley, including research colonies at UC Davis. Similar losses occurred in USDA research colonies at LSU, Baton Rouge, Louisiana. The disorder has recurred in some apiaries and in certain locations; but occasional apiaries remain normal in areas where most apiaries are severely affected. California beekeepers lost an estimated 10,000 colonies to Autumn Collapse last winter (1964-65).

Early investigations were limited by our inability to obtain a sufficient number of sick or dead bees for testing. The few surviving bees found in affected colonies usually showed no signs of sickness or distress. Extracts prepared from their macerated tissues produced no disease symptoms in healthy bees. A fungus, *Aspergillus repens*, isolated from a sick bee in 1962 failed to be pathogenic in bee feeding studies.

Pesticide residues were found in honey and / or pollen stores of some affected colonies, but not others. Bees could be re-established without apparent loss on combs previously occupied by a colony of bees which had succumbed to Autumn Collapse.

Foote, H. L. (1966). The mystery of the disappearing bees. *Glean. Bee Cult.*, 94: 152-153; 182

Another member said that they're planning on using Ottavio's method of Oxalic Acid Vaporization (OAV). Once the package gets into the hive and they've spread out (but before there's capped brood) and building comb, you can vaporize the bees before the Varroa have a chance to get into the cells. Ottavio said that last year he tried Ottavio's method of OAV in the mid-spring, summer, and fall – and all three of his hives died. **There are other factors contributing to hive loss besides mites** – they were healthy beehives in September, but all three died. OAV doesn't penetrate the brood cappings correct? Yes, but there is no brood with new packages. Ottavio said that you want to get rid of the mites early on, because they begin multiplying very quickly. He believes that you should start treatments earlier in the spring because of this.

Jen said that another suggestion would be using Thymol (Thymol Gel) on a new package, if it's warm enough, depending upon how early you're getting your packages. **What about Formic Acid?** There's no reason why that wouldn't work – just don't use the full treatment of two pads - use a single pad, or ¾ of a pad. What's the optimal temperature range of Formic Acid pads (Mite Away Quick Strips)? 50-85° F. They need to break cluster for the gas to penetrate. Jen thought that might be a better way to go because it is actually faster than the Thymol, and Thymol also needs higher temperatures to be effective. There are plenty of reasons why your bees may not make it

through (or to) next winter, but since you have a relatively small number of bees and there is no brood and they definitely have some mites – what can you do to help mitigate that particular source of risk. **Tony suggested that as you're shaking your bees into the hive, perhaps you should consider taking out a ½ cup of bees and doing a sugar roll or wash (alcohol or soapy water) to see if you need to treat them and/or to see what the baseline is.**

I have some bees that survived the winter, I checked on them last weekend and they seem like **they're okay (not a huge amount), and I was wondering how do I keep them away?** Is there something I can do besides giving them food? This is the worst part of winter, it is the high-risk time. Alix said that on Tuesday/Wednesday when we had those really warm temperatures, she ran around giving her hives a bunch of protein patties because they're going to start making baby bees now. Some of her bees were dead, and others were doing great, but she gave protein patties to the survivors so that they can start building brood. She suggests that **on a warm day to go in and add protein to your hives.** Alix said that she has 1-2 hives that came from a Mike Palmer queen, and they are just amazing – so much so that one of the inspectors and Alix are hoping to propagate their genetics – and if all goes well she hopes to offer these local queens. They're Carniolans, but last summer Alix said that she had to stand on ladder to work the bees because they were so productive and they thrive every winter and every year.

Do you have your own special mix for your protein patties? What are you using? Alix said that she uses Ultra Bee (from Mann Lake), Randy Oliver did study once comparing the different pollen/protein feeds and charted the population growth and I think Ultra Bee did the best so I bought a bag of that, and you mix it up with a thick sugar syrup and it comes out like peanut butter. Put a piece of wax paper atop your top bars and put it on there and the bees are on it like pigs in a trough. Alix said that while she did add protein patties to all of her hives, on Wednesday she noticed a lot of her bees were bringing back pollen. Many members mentioned seeing the same thing.

Bernie Michaud was asked, since it's that time of year, whether in the tropical micro-climate where he lives if his apple trees were blooming yet? No, but Bernie said that he did see crocuses blooming last week. The Pussy Willows, and Skunk Cabbage (along with Crocuses for the rest of us) will be out soon. What's out now? What's that pollen that they're bringing in now? Maple Pollen. If it's a pale-yellow pollen, that's Maple.

Getting back to this time of the year, and getting your hives through to the spring when they can really take off – you need to remember that in some ways this variable weather we've been having (where it's warm and then cold, warm and then cold again) the bees will not cluster as tightly because it's not going to be a sustained cold. They'll be out and about, breaking cluster, and this means that they'll

be consuming more honey (or fondant if you're putting that on at this point), and they're raising brood. So, if you were maybe checking in on your bees every couple of weeks earlier in the winter, taking a peek to make sure the hive felt heavy and had some honey in it – well, that **[inspection] interval needs to shrink**. You need to begin paying closer attention as we get closer to spring because the bees rate of consumption could skyrocket. You could one day go in and there's tons of food tons of healthy bees and you're planning on going in the – Tom said this happened to him a couple of years ago, he had hoped to get in the following week but it snowed and he couldn't get out to his hives until the following week, and by that time this thriving hive was on the verge of starvation. The colony had used up so much of their stores so quickly because their rate of consumption increased. The conditions were such that they weren't staying tight in a cluster, which earlier in the winter is the most efficient way for them to get through the challenging times. Alix said that not only are the bees themselves starting to eat more, but they're raising brood and eating protein, and if the weather permits you should get into your bees and check their honey/sugar brick/fondant stores and give them a protein patty.

Even though they have plenty of honey, do they still need protein? Alix said the bees need meat and potatoes, the honey is the carbohydrate (the potatoes) and they have to have protein to raise the baby bees. You may have protein in there already, and you may be fine. I bought protein patties from Better Bee, but they've never touched it? When they need it they will eat it... Jen asked where the protein patty was in the hive – because if it's on the inner cover instead of upon the top bars they won't touch it. No, it's sitting on the inner cover... You should stick the protein patty right upon the frames, so move it. Jen said that she couldn't tell anyone how many times protein patties on the inner cover weren't touched by her bees – the patties need to be right on the frames themselves UNDER the inner cover. A shim between the box with bees and your inner cover can help when it's not warm enough to squish the patty down.

I made some Bee Candy from a recipe in my class, and it seems like a bee trap. They get stuck in it, I followed the recipe exactly, but it's trapping

bees. Is it gooey? Yes. Tony said to take it out, because the moisture the bees are creating can make something like that melt down onto the cluster.

Jim said that people should remember that when it's too cold to break cluster, bees will move up more readily than they will laterally, and if there's lots of honey on the left side of the box and the cluster is on the right, you should move the honey over. Tony said that if you have a dead-out next to your live hive, and the bees that died wasn't disease ridden (Nosema-caused defecation everywhere) **you can take resources from the dead hive and give it to your hives that are still alive** – take a super of honey, a frame of pollen, don't let that stuff go to waste. Tom said that when a warm day presents itself, take advantage and make changes if necessary to optimize things for the next couple of weeks.

Are protein, and a pollen patty the same thing? Now protein patties are often constructed with stuff (carbohydrates), but their primary purpose is to provide protein that the bees need particularly in the spring when they're raising brood. Jen said that you'll notice in some of the magazines the advertisements will actually say how much pollen is in the patties (she thought that Global Patties might have 4% pollen, which is high for patties), and some of the protein patties don't contain pollen at all.

Does anyone know of the efficacy of Brewer's Yeast? Tony said that some of the home-made protein patty recipe use Brewer's Yeast, along with soy protein, egg white proteins. Is it a carbohydrate? No, a source of protein, B-12 (Brewer's Yeast is the main ingredient of Vegemite). Ed said that yeast is comprised of a lot of stuff, it's mainly proteins, but you will have some metallics in it, there will be Zinc in the Brewer's Yeast (Zinc is a yeast nutrient). Cattle farmers love Brewer's Yeast – there are a lot of healthy nutrients that remain in there. Tom U. said that his dad used to put it out (not on a windy day) and the bees would swarm over it and pick it up like pollen.

Do the dry feeds go bad? Alix said that she used to keep it in the freezer (Tony said that's where he keeps his), but now they say you don't have to, so she just keeps it in a plastic tote now. Someone asked what's the worst can that can be happen? Well, you could kill your bees. Do you save a couple of pennies or dollars versus what a new package/nuc costs? Alix

said she believes that bees won't eat something that will be harmful to them. **What about feeding the protein dry?** Alix said that she's never had luck with feeding dry.

What about feeding minerals, like salt cakes? If you've already bought the patties then go with that. At the fall Mass Bee meeting, one of the speakers gave a talk on 'Dirty Water,' and why bees are really attracted to it. Jen said that she's noticed it herself when gardening, she's purchased composted cow manure and before tilling it into the garden if there's rain or snow then the bees will be all over it – they crave minerals. Tom said that you'll notice on warm days in March that the bees will be out rummaging on the leaves and dirt in the yard – they're picking up minerals. They love mud, and dirty bird bath water, and when it comes to minerals, Tom felt that there's plenty out there and they know where to find it.

Sometimes when we have dead colonies, there's a lot of leftover feed (sometimes pollen patties, or sugar cakes). Should we keep that to reuse? Tom said that the only time he wouldn't reuse it is if there were some sort of dysentery or Nosema condition in the hive. Sometimes the bees will soil all over the fondant and stuff, obviously throw that stuff out. Tony and Jen disagreed, for the couple of bucks that the pollen patty costs, or the sugar (brick, candyboard, fondant) – sugar is \$0.41/pound at Costco the last time he checked, just dump it. Bees are >\$100 now, he didn't think it was a good cost/benefit ratio. Jen added that

transferring clean capped honey from a dead-out to a live colony is perfectly okay, in fact in terms of nutrition, it just doesn't get better than honey for bees. Jelly beans can sustain a human life, but it's not that healthy for us and the same thing goes for bees – she would keep honey but throw away sugar. Tom said that he makes his own fondant, so if there's still 80-95% of it still there, he'll use it again...

I've wrapped my hives for winter, and tried a few different options – I was wondering what everyone thought their best option was? Many members answered with Roofing Paper. Tony said that he uses ridged foam insulation, but if you ask 10 beekeepers a question and get 11 different answers. You don't want to create a situation where you're enclosing a hive in moisture. Tom said that when we talk about winter practices it's very important to pay attention to where your hive is located – are you out in a windy area (if so, is there already a natural wind break)? Where does the sun move in relation to your hive in the winter sky? Those are factors that you have to be conscious of when you site your hive and when you're making decisions about whether you're going wrap you hive, and if so am I going to wrap it in tar paper or something more substantial? If you don't have any sort of natural windbreak, then maybe a more substantial wrap is warranted.

Has anyone done the shed method, or barn method? Putting the hives inside the shed so they have access to get out? That's done up in Ontario, or the Northern Plains States. There

are a few problems with that, a major one is if you get weather like we've had this week – when it's 30's and 70's. When it hits 70° F. your bees are going to be going crazy in that shed. Up North, beekeepers have big buildings that they overwinter bees in, where they regulate light, humidity, carbon dioxide, and temperature.

When do we take off the roofing paper? End of March, early April. Tax Day. No later than May first – it really depends upon the weather. If there are lots of good flying days ahead in the forecast, and little threat of frost, then have at it. ●●●

Newsletter Announcement

Volunteers are needed to take notes and/or transcribe recorded audio from meetings.

In the past, issues of the *Middlesex Bee* were available Monthly, or Bi-Monthly. Without additional help from members, the *Middlesex Bee* will be produced quarterly.

If you would like to volunteer, please contact Tony Pulsone at editor@middlesexbeekeepers.org

Use Protective Gear when applying Treatments

MCBA member John Sallay provided the following information, because it was frustrating [while trying to learn how to use the MAQS and the OA vaporizer], that all of the instructions and websites emphasized that "Protective equipment is necessary" – but no specific protective equipment is recommended. Neither John, *nor the club*, endorses any specific products – we're just providing information on what John used. In addition to the typical beekeeping jacket/veil and gloves, long pants, and shoes/boots, you'll need...

Nitrile Gloves – Although the oxalic acid instructions approved by the EPA call for 14 mil thickness nitrile gloves, 8 mil powder-free gloves seem to be adequate

- The nitrile gloves sold by Brushy Mountain are 8 mil, though 8 mil Liberty Duraskin powder-free, blue nitrile gloves are available much more economically in bulk packages from Amazon
- These nitrile gloves are available in a complete range of sizes
- The XXL size gloves fit over beekeeping gloves, if you want protection against both the acid treatment and the bees

See: <http://libertyglove.com/products/hand-protection/disposable-gloves/duraskin/disposable-nitrile/industrial-grade-nitrile-disposable-gloves-powder-free-79>

Respirator Mask – I am using a 3M full facepiece mask with cartridges that I am told are appropriate for both oxalic acid and formic acid, as detailed below. The total cost on Amazon is about \$110 plus sales tax and shipping (if you are not a Prime member). I had been using a half facepiece 3M mask and plastic goggles, but recently swapped it out for a full facepiece model. Last summer, I was getting a little bit of formic acid vapors in the goggles when using MAQS. The one I bought is the 3M Full Facepiece Reusable Respirator model 6800 (medium size; small is the 6700 and large is the 6900). It is more expensive than the half facepiece model and separate goggles, but works much better (even though it makes you look like you're going to check bees in Chernobyl). See https://www.amazon.com/3M-Respirator-6800-Respiratory-Protection/dp/B007JZ1LG6/ref=pd_sbs_121_1?

[encoding=UTF8&pd_rd_i=B007JZ1LG6&pd_rd_r=P3FA2Y07NZ2JHH3MR131&pd_rd_w=xmcNt&pd_rd_wg=Lr7FM&psc=1&refRID=P3FA2Y07NZ2JHH3MR131](https://www.amazon.com/3M-Cartridge-60926-Respiratory-Protection/dp/B00TO64THG/ref=sr_1_1?s=industrial&ie=UTF8&qid=1507236173&sr=1-1&keywords=3m+60926)

Cartridges – The masks require a pair of cartridges. These are sold separately since 3M produces *MANY* different types of cartridges, for all sorts of situations. I called 3M and, for beekeepers, they recommended using the mask for both formic and oxalic acid with the 60926 "Multi-Gas/Vapor/P100". They said that the 60923 "Organic Vapor/Acid Gas/P100" is the one to use if you wanted it for oxalic acid only. For the 60926 see: https://www.amazon.com/3M-Cartridge-60926-Respiratory-Protection/dp/B00TO64THG/ref=sr_1_1?s=industrial&ie=UTF8&qid=1507236173&sr=1-1&keywords=3m+60926 and for the 60923 see: https://www.amazon.com/3M-60923-Combo-Cartridge-Respirator/dp/B000BL5IE6/ref=sr_1_1_sspa?s=industrial&ie=UTF8&qid=1507236204&sr=1-1-spons&keywords=3m+60923&psc=1 *The respirator cartridges can be reused, potentially several times, but 3M does not specify how many times. Since the cartridge acts like a sponge, the longevity depends on the concentrations of exposure, temperature, and other factors. According to 3M, you know when you need to replace the cartridges when you either smell/taste the acidic gas while you are using the mask, or the cartridge is clogged with particulates and you can no longer breathe properly through the mask. For storage of these cartridges in between uses, remove the cartridges from the mask and store them in a sealed Ziploc type bag.*

The beekeeping equipment suppliers seem to be catching up with the market need. For example, Betterbee offers a half facepiece 3M model with filters included: https://www.betterbee.com/pc_product_detail.asp?key=0BE54AA50207499AB8DC8C7D6D7D527A. If you decide to use the half facepiece model, you might consider also buying plastic safety goggles like the ones that Brushy Mountain includes with its OA treatment kit, such as https://www.amazon.com/3M-Protection-Chemical-Splash-Impact/dp/B00PNLXN7I/ref=sr_1_9?s=industrial&ie=UTF8&qid=1520173635&sr=1-9&keywords=safety+goggles#HLCXComparisonWidet_feature_div



Middlesex County Beekeepers Association



Membership Form

\$15 Annual dues per family, payable to MCBA. Mail this form and payment to: Ed Culkin, 9 Johansen Drive, Marlborough, MA 01752. OR bring it to a meeting.

Please PRINT CLEARLY, and fill out the ENTIRE FORM.

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

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