President’s Message
2019 Year End Recap

Thanks to all of you we had a great year! Our meetings this year were well attended and the information presented was pertinent to our region. I also want to thank all of our county organizations, for without their tremendous efforts we could not deliver our programs. A special thanks to our host counties this year, Essex in Topsfield, Franklin at UMass Amherst, and Norfolk in Medway just last month.

As always if you have any ideas or thoughts that you would like the Board of Director’s (Board) to consider please email or call and I will include it on our agenda when we next meet to assure that we plan appropriately.

This year Mass Bee and the Board formed a new committee to bring EAS to our region in 2021. Our early efforts have won us this great opportunity

-continued next page-
and EAS 2021 will be held at UMass Amherst! This event will again allow us to bring the counties together to spotlight local talent along with the national headline speakers. Our current Mass Bee Vice President, Mary Duane, is Committee Chair as well as President of the 2021 conference. Please contact her if you are interested in assisting. As always many hands make light work! The hope is to have every county represented.

Looking forward to 2020, the Board has already contacted and secured speakers for the March meeting in Topsfield. Franklin County has “Field Day” in June under control but as always they are looking for local talent to present. If you have a special person in your county organization please contact Tom Graney. The fall meeting in November has speakers lined up but as of yet we don’t have a county commitment, however a member from Middlesex county has expressed interest in his county club wanting to host. We are interested in helping any County who wants to host the meeting. It’s a great opportunity for clubs to get more exposure among the beekeeping community state wide. If you think you want to host please contact me or the MBA Corresponding Secretary. I will attend your meeting and explain how it works and how it brings your club together.

On page 28 of this newsletter you will find a listing of the many events planned for the first half of 2020. Print the page and keep it on your refrigerator so you don’t miss any of these great events.

Lastly, I encourage anyone who is interested in joining the MBA Board of Directors to help support and guide this organization to please contact a member of the Nomination Committee. At the MBA Fall 2020 Meeting the new members elected to a position on the Mass Bee Board of Director’s. We hope you will consider joining the Board - it is quite rewarding to see how the interactions of beekeepers brings out the best in all of us.

Thanks for making this association great! Enjoy the Holiday Season and Have a Great beginning in 2020!

Thank You All

Pete Delaney
2020 Mass Bee Honey Ambassador
By Kitty de Groot

At our Fall 2019 Meeting in Medway we crowned a new Massachusetts State Honey Ambassador for 2020. Her name is Abbie Milewski and she has been the Worcester County Honey Queen for two terms. She is 25 years old, a graduate of Smith College and the WCBA Bee School, and is a second year beekeeper in Milbury. Her beekeeping experience goes beyond her two years of having her own bees - during her study abroad in Costa Rica she helped start hives on the campus and visited apiaries in surrounding communities. Abbie is well suited for the role as the State Honey Ambassador given her beekeeping experience and her rein as the WCBA Honey Queen where she has had the opportunity to speak to local groups and kids. Abbie has said this work has only increased her enthusiasm for sharing her love of bees and beekeeping and supporting the beekeeping community in Massachusetts.

We congraduate and welcome Abbie in her new role and encourage all of the county organizations to invite her to at least one of your events during the year. To invite her to your event, please contact either MBA President Pete Delaney or the MBA Corresponding Secretary.

While we are excited and happy for Abbie to be our 2020 Massachusetts Honey Ambassador, we also want to say a big Thank You to Ryan Duggan for the fantastic job he did as the 2019 Massachusetts Honey Ambassador. Ryan was a great representative for the Massachusetts Beekeeping community and we hope him continued success in his future.
2019 Mass Bee Fall Meeting
By Kitty de Groot

We hope you did not miss the 2019 Mass Bee Fall Meeting hosted by the Norfolk County Beekeepers Association (NCBA). We had a very good turnout with a lot of practical information being shared. The two main Guest Speakers Dr. Larry Connor and Stephen Repasky discussed making nucs, catching swarms and keeping your bees alive. The take away message from both speakers was you do not need to purchase packages or nucs to expand your apiaries – you can expand your apiaries by using your own colonies to make splits, as well as to prevent swarming.

To welcome our Guest Speakers, NCBA held a meet-and-greet dinner the night before the event. The dinner included an entertaining and informative talk by Bob Hickey on queen rearing and a fascinating look back at beekeepers and beekeeping.

Vendors donated some outstanding items for the raffles – these items raised roughly $1,100 which will be used to sponsor upcoming events. The Honey/Wax show and the Cooking contests had great participation. John Grace and Stan Sample did a wonderful job judging the honey and wax entries, as did Chef Joseph Leonardi who judged the cooking contest.

At the Saturday event we also were fortunate to our State Chief Apiary Inspector present to share information on the inspection teams work this bee season and program work for 2020. Students from MIT were also present to demonstrate their prototype of a new system to move hive boxes off a hive body. The students were grateful for all of the suggestions and encouragement they received from beekeepers at the meeting and are looking for more feedback/information to help guide their continued project work – they have created a survey to gather more information – see the link to the survey on page 6 of this newsletter.

Finally, we were also lucky to have presentations by Dick Callahan on the number of pollinator protection bills discussed at the Nov 12th public hearing at the State House, and Representative Mary Keefe who give us an overview of the legislative process. Both of these talks were helpful to understanding how we as beekeepers can help protect pollinators through legislative actions.

Special Thank You to all the volunteers from NCBA, lead by Kathy Halamka and Kathleen Gasbarro, who did an outstanding job, Their hard work paid off brilliantly!

~continued on next page~
Mass Bee 2019 Fall Meeting Contest Winners

**Honey Division**

Best 2 sections of square comb honey: (no 1st place); 2nd – Kenneth Pearl
Best medium extracting frame of honey: 1st – Kathy Varney;
2nd – Deb McCelland
Best 2 jars of Light Honey: (no 1st place); 2nd – Diane Wolf Thomas;
3rd – Jay Hubbell
Best 2 jars of Light Amber Honey: 1st place – Kathy Varney;
2nd – Stephanie Markham
Best 2 jars of Amber Honey: 1st place – Sid Balestrier; 2nd – Jay Hubbell;
3rd place – Woodside Middle School
Best 2 jars of Dark Amber Honey: (no 1st place); 2nd – Durinda Priebe;
3rd – Sid Balestrier
Best 2 jars of Dark Honey: 1st – Kathy Sample; 2nd – Mary Duane
Best 2 jars of Creamed Honey: (no 1st place); 2nd – Diane Wolf Thomas;
3rd – Kathy Varney

**Wax Division**

Artistic Article made of Beeswax: (no 1st place); 2nd – Chris Delaney;
3rd – Bonita Conlon
Best Piece of Beeswax 2lbs or more: 1st – Kathy Varney;
2nd – Bonita Conlon
Best Piece of Beeswax Under 2lbs: 1st – Kathy Varney;
2nd – Bonita Conlon
Best pair of straight, plain tapered molded candles: (no 1st place);
2nd – Kathy Varney
Best Novelty Candles: 1st – Kathy Varney; 2nd – Stephanie Markham

**Cooking Division**

1st – Sid Balestrier – Chocolate Pie
2nd – Linda Boylon – Pear-Ginger Pie
3rd – Kathy Varney – Baklava

**Most Points in Honey Show:** Light Amber Honey - Kathy Varney

**Best in Show:** Amber Honey – Sid Balestrier

**Ted Schylofsky Award for best wax in show sponsored by Essex County Beekeepers Association:** Novelty Candles – Kathy Varney
MIT STUDENTS PROJECT PROTOTYPE AND SURVEY

by Kitty de Groot

A group of students in the mechanical engineering product design class at MIT are working on developing a new beehive design with a goal to make each of the boxes in a hive more accessible for a beekeeper by reducing the need to lift any of the supers or brood boxes in order to monitor and care for the bees. The students brought their prototype to the Mass Bee Fall Meeting in order to obtain beekeepers feedback on their product. Lots of beekeepers as well as the Guest Speakers were given a demonstration of the prototype and provided valuable feedback to the team.

Roughly three weeks following the MBA Fall Meeting the students had their final presentation which addressed the problem their project was trying to solve as well as the engineering design and their market analysis. If you are interested in watching the their final presentation, there is a broadcast video of all the presentations at this link; they are the Red Team and start at 2hr:19min into the video.

Recipe: Sugar Candy

There are several recipes for sugar candy/fondant – the following is just one that seems to work well for me:

Boil 1 pint of water, add 5 lbs granulated sugar and tsp of vinegar. Use a candy thermometer to keep a close eye on the temperature of the mixture. Boil until the mixture reaches 234°F *. Stir the solution frequently in order to prevent burning or carmelizing the sugar. The solution will eventually clear during the boiling process when the temperature approaches 234°. Remove the sugar solution from heat and cool to approximately 180-200° then pour into prepared molds (greased pie tins, cookie sheets, or use wax paper, etc. or candy boards.

[Suggestion, hives that are fed candy should be rechecked every 10 days to two weeks and fed as needed.]

*Higher boiling temperatures result in a harder candy.
EAS MA 2021 PLANNING UPDATE

by Mary Duane
EAS 2021 MA Committee Chair and President

Get excited, get ready and get involved in EAS MA 2021! The annual Eastern Apicultural Society conference and short course in 2021 will be hosted by the Massachusetts Beekeepers Association. The conference will be held during the week of July 26th-July 30th, 2021 on the University of Massachusetts at Amherst campus.

Plans are being put in place now to make this an outstanding event. It is not too early to volunteer to help at the conference or get on the planning committee - please contact Mary Duane at vicepresident@massbee.org to get your name on the list to help out. All are welcome to help out.

Congratulations to Franklin County club member Tom Graney for submitting the winning Theme for EAS MA 2021- “Past, Present, and Beeyond”. Thank you to all who entered the contest.

What is next? The EAS MA 2021 conference is in need of a graphic logo - are you artistic and creative? The MBA is holding an EAS MA 2021 logo contest. The logo will be used on the EAS MA 2021 T-shirt and other conference materials.

Examples of logos created for the last two EAS conferences are shown below.

![EAS MA 2021 Logo Examples](image)

Things to keep in mind when creating a logo: the logo must be original work; and, logos must be inspired by the theme “Past, Present, and Beeyond”. The winning logo may be used in media for the event – including online, print, T-shirts, and possibly other merchandise and/or other visual displays.

The deadline for submissions is February 28th and it should be in jpeg format.

Please submit your entry to vicepresident@massbee.org. The individual submitting the winning entry will be announced at the MBA Spring Meeting and will receive a free conference T-shirt.
It’s that time again! It is your opportunity to nominate someone for Beekeeper of the Year!

What is the nomination process and criteria for Mass Bee Beekeeper of the Year?

Criteria:

❖ A person does not have to be a Massachusetts Beekeepers Association member but must be a member in good standing of a Massachusetts County Beekeeping organization.

❖ This is a person who has willingly provided his or her time and knowledge over the years to help, train, and educate others in the field of beekeeping.

We are sure you know someone that meets this criteria and deserves to be recognized. It is easy to nominate them.

Process:

❖ Nominees are submitted by the County Club president or directly to the selection committee chair.

❖ The selection committee consists of three people and is chaired by David Thayer.

❖ Deadline: All nominations must be submitted via email to Dave Thayer (wolfoog@hotmail.com) by December 28th. The winner will be announced at the MBA Spring Meeting.

Any questions, please contact David Thayer at wolfoog@hotmail.com. Thank you!
This past season has been the best honey producing season in 20 years for me. The nectar flow started in early May and remained steady through September 28th when I knew it was over because all the honeybees were trying to get into my honey house to take back all their reserves. I had to keep taking off full honey supers, extracting them and putting them back on my hives to keep the bees from honeybounding my brood chambers. It was a challenge for my wife and I to keep up. The medium honey supers with 35-40 pounds of honey were lugged to the truck from the hives and then into the honey house. Tons of work all spring, summer and fall. We finally finished extracting in mid-November. Do not get me wrong. I am not complaining for the banner year. The beekeepers I talked to all were expressing my joyful sentiments.

The bees all fairied well healthwise as long as we kept our mite numbers down throughout the long season. The mite numbers were not too bad but really came along big time toward the end of the season. I treated my colonies with miteaway on August 21 and noticed high counts by the beginning of October so I had to take action to counter the numbers as a few were already being affected as evidenced by uncapped white dead pupa.

I noticed that a large portion of my hives stopped brood rearing similar by October 15th with no eggs or new larva. Many members called me thinking they were queenless but it was not the case. It was a repeat of last year. Is it to combat the large mite populations going into the fall or some other reason? The bees usually continue with brood rearing to mid-November over all the years in the past. Therefore, I predict brood rearing will startup in December like last year. Therefore be prepared for earlier feeding of sugar patties and pollen patties as they will be consuming their stores much earlier especially near the brood. Do not let your hive starve like last season when many of us lost starved hives for that reason. I advise checking on food stores in late December rather then waiting till January. Keep in mind that they need honey/sugar not just for brood rearing but to produce the heat to keep the brood at 93 degrees so their consumption is tremendous. I always have a guilt complex when I get a hive that dies from starvation through my fault. The bees need you know more than ever - they did their part - now it is our turn to help them.

What else is there to be done through the long cold winter? It is natural for the older bees to fall to the bottom board when they die and this often clogs the entrance (reducer opening and the mouse guard). Every few weeks go in with a coat hanger wire and scoop out the dead bees. This will allow for airflow and ventilation in the hive which the bees need. Check underneath the inner cover for moisture and if you see moisture and black mold then you need more ventilation to get the moisture out. The moisture dripping down on the bees in winter is like a refrigerator effect and can kill your cluster of bees and brood. Some leave their screen bottom board open for the winter. I recommend that you put your insert in to close the screen, otherwise it can be like a wind tunnel in windy areas causing your cluster of bees to break up. We found this at one of the sites in the USDA study that I was involved in. If you find your bees coming up through the hole in the inner cover during very cold days when they should be in a tight cluster, it could mean they are out of...
stores near the brood and are looking for food. If that is the case, you should put a sugar patty 1/4 inch thick on wax paper and place it on the frames overlapping the cluster by 3 inches. Do not cover the cluster totally or the whole in the inner cover which could inhibit ventilation. Also a pollen patty can be placed on the other side of the cluster in case they cannot get to their stored pollen down below – if they have no pollen they cease brood rearing. I trap pollen of different types during the previous season and start pressing it into my sugar patties. In several tests that I have done, I find that they go for the real stuff and leave the pollen patty alone. I find earlier brood rearing as a result, but also earlier swarming. I shouldn’t be giving away all my secrets. Oh well.

If you are in a very windy area you may want to put up a barrier of hay bales around your hive. Also, after a snow storm, especially heavy wet snow, clean the snow out of the entrance opening to give the hive ventilation. If you are still finding moisture try putting popsicle sticks on the four corners of the rim of the top super and then the inner cover on these. Also, the square cutout on your inner cover should be facing down in the winter. Finally, watch for melting snow during the day and freezing at night blocking your entrance. Make sure your hive is tipped forward 1 inch.

Even with all of that, you still need to say your prayers and keep your fingers crossed. The hope is that your colony did not do any late fall robbing and bring back any viruses or virus vectoring mites that will spread the viruses slowly but surely through the long winter months and disappoint you when you open your inner cover in March and find a dead hive or a tiny softball cluster from viruses. This is what I found last season and it was such a disappointment. If this happened to you, don’t feel bad, this is something we all need to address to better manage our hives. In order to help us all address this virus issue, the Worchester County Beekeepers Association (WCBA) will be hosting Dr, Judy Chen, the chief virologist at the Federal Beltsville Bee lab to speak at their March 7th meeting. Dr. Chen’s presentation will be “Honeybees, Varroa Mites and Bee Viruses: The Deadly Combination”. She will break down the interaction between the bees, mites, bee viruses and the vectoring process, and the intricate ways it takes down our colonies. This is something we all need to better understand in order to help our bees. In her second talk she will discuss her newest published study on the association of the parasitic mite Varroa Destructor and the Deformed wing virus that causes deadly disease in honey bees. The second guest speaker for the March 7th meeting will be Dr, Jen Tsuruda of the University of Tennessee speaking on her study of bee foraging behavior. All beekeepers are encouraged to attend this meeting in order to better understand what we can do to improve things for our bees. See the Worcester County website for details. All clubs are invited.

Finally, winter is a time when we can catch up on our reading of bee books and attend our county meetings for further education. We can also build or repair any equipment needed for the spring season – which will be here before you know it. Until then, happy wintering and always feel free to call me with any questions as I have an open door, 508 680 3440.

Holidays and Best Wishes,

Ken Warchol
(Bee whisperer and beekeeper since 1950)
CLIMATE CHANGE EFFECTS ON THE HONEYBEES & OTHER POLLINATORS

By Mel Gadd, Drumlin Farm

Besides the major effects that Climate Change is having on our lives, it is having a major effect on our honeybees and other pollinators.

Most people assume that the warmer winters that we have been having is better for the long-term survival of our honeybees and other pollinators. Unfortunately, the reality is the reverse. The warmer the winter is the more our bees eat, thereby reducing their stored honey considerably that they use to get them through the winter. In addition, the number of warm days, above 45 degrees that we have had the past three (3) winters actually confuses the bees. They think Spring has sprung, and will fuel up with their honey stores and go flying out looking for flowers in bloom. As we all know, at that time of year there is nothing in bloom, and the bees use up their fuel source, the honey, and never make it back to the hive. The overall effect is that the hive ends up not surviving due to the drastic reduction in number of bees within the hive.

These weather changes are forcing the beekeeping community to change their management techniques to help the bees get through the winter. Previously new beekeepers were told to leave somewhere between 40-60 pounds of honey on the hive to help bees get through the winter. We now are telling people to keep somewhere between 80-100 pounds of honey in the hive.

Other problems related to climate change seriously affecting the honeybees is the issue that the warm weather is lasting longer into October and even November. In the past our region always had a “hard frost” before the end of September. This killed off the yellow jackets, hornets and wasps. The past three years we have not had a “hard frost” until late October and even into November allowing the yellow jackets, hornets and wasps to remain in the area. This is problematic since at this time of year there is very little pollen & nectar out there for these insects to eat. These insects are meat eaters and have gone after our honeybees and other native bees. At this time of year, the numbers of bees in the hive have reduced and they are not as able to fight off an attack of these other meat-eating insects. Two years ago, when we did a Pollinator Festival in middle of October, I went to do a hive opening for people to see what went on inside the hive. Unfortunately, when the hive was opened it was full of yellow jackets who had wiped out all of the bees and decimated the stored honey and wax in the hive. To deal with this we have had to hang yellow jacket traps at some of the hives on the farm to prevent these attacks.

The bottom line, is as we all have to adapt our lives based on climate change, those of us who manage honeybees and other pollinators also have to adapt the management techniques we use to ensure that our bees and other pollinators survive the future.
Russian Honeybee Breeders Association

By Dan Conlon

RHBBA’s Annual Meeting was held at the ARS-USDA Genetics Bee Lab in Baton Rouge, LA. Each year members and scientists meet to share data on the Russian breeding program, measure progress selecting for Varroa mite tolerance, and to discuss best methods for queen rearing and selection.

Officers continue with Dan Conlon President – MA. David Coy Vice President - MS, Harry Fulton Secretary - MS, and Austin Smith Treasurer - MS. Directors Chris Hewitt – VA. Manley Bigalt – Iowa, Carl Webb – GA. Tom Rinderer Ph.D. continues as a technical advisor, and Lilia DeGuzman Ph.D. stays on representing the bee lab.

During the two-day meeting (October 31st & November 1st) each breeding line was reviewed, and the next season’s release line was chosen. Two new members were voted into the association and assigned their breeding lines. Bee Lab Researchers gave presentations on work currently in progress at the lab. Genetic markers are being found to differentiate races of honeybees. Algae is being grown for its potential as a food for bees. Studies on mites and other pests & diseases continue. The bee lab, after many years of being understaffed, had a full complement of Scientists and Technicians.

Specific to the Russian program was the completion of a two-year study comparing RHBBA pure stock with available hybrid-mixed Russian bees. The paper will be published shortly and concludes that RHBBA Queens consistently reduce mites better than hybrid queens. Data also showed an incremental, but steady, improvement in mite tolerance since 2007. This further confirms the breeding and selection techniques are working to improve the reduction of mites in Russian colonies.

The mission of the RHBBA is to preserve the genetic diversity, improve mite tolerance, and increase honey production in the Russian bee. Each member must collect and send samples with data to the bee lab forevaluation annually to remain a "certified" apiary. This includes multiple mite tests, keeping test yards (no-treatments), lab testing for viruses & disease, honey production, and DNA testing to confirm the purity of the breeding lines.

For additional information visit http://www.russianbreeder.org/
There is great news to report on the legislative front this fall. On November 12 the Joint Committee on Environment, Natural Resources and Agriculture (ENRA) held a hearing on 16 bills (see table at end of this article for full listing), the majority of which either directly or indirectly impact pollinators. Topping the list was Representative Carolyn Dykema’s bill, H.763 - An Act to protect Massachusetts pollinators. In a packed hearing room, with standing room only, H.763 received a huge endorsement when cosponsor Attorney General Maura Healey testified alongside of Representative Dykema in support of the bill. In addition to expressing her support for H.763 Attorney General Healey delivered a scathing assessment of big pharmaceutical and agricultural corporations that

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attempt to greenwash their products as pollinator friendly.

Due to Attorney General Healey's support and co-sponsorship of H.763, the huge turnout at the hearing and ENRA's strong environmental leadership of Chairs Pignatelli and Gobi, H.763 was reported favorably and referred to the House Committee on Ways and Means on November 18, less than a week after the hearing.

The next phase of the process involves getting a favorable vote out of the House Committee on Ways and Means where the bill is currently assigned. This will involve continued advocacy with Speaker DeLeo, Chair Michlewitz, and the members of the House Committee on Ways and Means.

A major portion of this task involves documenting the science behind the claim that neonicotinoids are a disaster for pollinators, the general insect population as well as birds, reptiles, amphibians, fish, invertebrates and ultimately mammals too. You may recall that, towards that end, Representative Dykema supported an FY2020 Budget appropriation of $100,000.00 in Department of Agricultural Resources item 2511-0100 for the department to “conduct a scientific review of the potential impacts of neonicotinoid insecticides on pollinators.” The language also stipulates that “the subcommittee shall hold at least 1 public hearing on the findings of the scientific review prior to the completion of the subcommittee’s individual review” and “that not later than December 31, 2019 the department shall submit the results of both the scientific review and individual review to the joint committee on environment, natural resources and agriculture.” Such reviews in other states have provided a basis for restricting neonicotinoid use, and the Massachusetts study will be an important factor in whether the bill advances to the floor for a vote by the House. Since this study is critical to the progress of the bill, it will be important for our membership to attend the public meeting on the study's findings once a date is announced.

As a testament to the growing awareness by the public and by the legislature of the importance of protecting our pollinators and the environment in general many other great bills were included in the hearing. The full list is available at the end of this update. Representative Mary Keefe from Worcester who is a beekeeper and a member of the Worcester County Beekeepers Association sponsored H.818 - An Act to protect pollinator habitat. The loss of habitat along with pesticides is another major factor in the demise of our pollinators. Representative Dylan Fernandes from the cape sponsored H.776 - An Act empowering towns and cities to protect residents and the environment from harmful pesticides.

This bill would give cities and towns the power to implement restrictions on pesticides and herbicides that are stricter than state restrictions. Currently state pesticide laws and regulations preempt those of municipal governments. This legislation would give power over their environmental destiny back to the people of Massachusetts. There are also several bills that seek to limit or restrict glyphosate, the herbicide which is the main ingredient in Monsanto's Roundup. These bills could also obviously help pollinators.

We owe all these legislators who have sponsored legislation that seeks to protect our pollinators and our environment a debt of gratitude. Due to them and to the growing awareness on the part of the public, Representative Dykema's
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pollinator protection legislation is in the best position that it has ever been to get passed. So please continue to let your legislators, friends, family, coworkers and anyone who will listen that our pollinators need our help and that everyone can make a difference.

It is not too late to submit written testimony to ENRA. Send your written testimony to both the Senate and House chairpersons, Senator Anne Gobi and Representative Smitty Pignatelli. Make sure to reference the bill number that you are testifying about and state that it was heard at the Pollinators and Pesticides Hearing on 11/12/2019.

<table>
<thead>
<tr>
<th>Senate</th>
<th>House</th>
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<tbody>
<tr>
<td>Senator Anne M. Gobi 24 Beacon St. Room 513 Boston, MA, 0213</td>
<td>Representative Smitty Pignatelli 24 Beacon St. Room 473F Boston, MA, 0213</td>
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Please see the table below for a list of the legislation included in the November 12 ENRA Hearing at the Statehouse.

<table>
<thead>
<tr>
<th>Bill</th>
<th>Bill Title</th>
<th>Sponsor</th>
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<tbody>
<tr>
<td>H.763</td>
<td>An Act to protect Massachusetts pollinators</td>
<td>Carolyn C. Dykema</td>
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<tr>
<td>H.776</td>
<td>An Act empowering towns and cities to protect residents and the environment from harmful pesticides</td>
<td>Dylan A. Fernandes</td>
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<tr>
<td>H.791</td>
<td>An Act relative to improving pesticide protections for Massachusetts schoolchildren</td>
<td>Carmine Lawrence Gentile</td>
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<td>H.792</td>
<td>An Act relative to the prohibition of the transfer or use of glyphosate in the Commonwealth</td>
<td>Carmine Lawrence Gentile</td>
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<tr>
<td>H.818</td>
<td>An Act to protect pollinator habitat</td>
<td>Mary S. Keefe</td>
</tr>
<tr>
<td>H.837</td>
<td>An Act to study the feasibility of creating and implementing a gypsy moth spraying program</td>
<td>Mathew J. Muratore</td>
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<tr>
<td>H.850</td>
<td>An Act relative to mosquito control</td>
<td>Elizabeth A. Poirier</td>
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<tr>
<td>H.4146</td>
<td>An Act to upgrade hen welfare and establish uniform cage-free standards</td>
<td>Daniel Cahill</td>
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<tr>
<td>H.4159</td>
<td>An Act authorizing the town of Nantucket to supply itself and its inhabitants with water</td>
<td>Dylan A. Fernandes</td>
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<tr>
<td>S.432</td>
<td>An Act to restrict the use of pesticides around children</td>
<td>William N. Brownsberger</td>
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Legislation Included in the November 12 ENRA Hearing at the Statehouse
### S.444
An Act relative to the pesticide board

**Julian Cyr**

### S.447
An Act empowering towns and cities to protect residents and the environment from harmful pesticides

**Julian Cyr**

### S.463
An Act protecting pollinators by eliminating harmful products

**James B. Eldridge**

### S.497
Resolve to protect pollinator habitat

**Jason M. Lewis**

### S.499
An Act relative to the use of glyphosate on public lands

**Jason M. Lewis**

### S.531
An Act relative to pesticide applications

**Bruce E. Tarr**

For those who are interested in learning more about the Massachusetts legislative process there are several useful resources available. The Audubon Society has a couple of nice flow charts on [The Legislative Process](#) and on the [Budget Process](#). Mass Legal Services has a page about [The Legislative Process in Massachusetts](#) and there is also a downloadable document on the state legislature’s website entitled [How An Idea Becomes A Law - Massachusetts Legislature](#). They also have a useful [Find My Legislator](#) tool for anyone who is unsure who their legislators are.

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November 12, 2019 Public Hearing on a series of pollinator protection related bills. Some of the youngest testimony came from students from Wellesly MA. Many individuals and organizations including The Garden Club of America also testified. [Photo sources: Kitty de Groot and photo at beginning of article from Rep Dykema's facebook page.]
UMass Extension Update

1) Check out the fourth article of The Research Buzz in this edition of the Mass Bee newsletter. It is a recurring column where we highlight new and interesting bee research.

2) Explore our upcoming workshops. For more information about all workshops visit: http://ag.umass.edu/resources/pollinators/honey-bees/education/umass-extension/bee-workshops.

To sign up, visit https://ag.umass.edu/pollinators/upcoming-events or email Hannah Whitehead at hwhitehead@umass.edu.

- Honey Bees Under the Microscope 1.0
  Dissect a bee to learn about honey bee internal and external anatomy! Each person takes home a personal dissecting kit (wax dish, scissors, pins, etc.) 10am-4pm. Cost: $50.
  ▪ March 7, 2020 – UMass Amherst (Amherst MA)
  ▪ April 4, 2020 – Location TBD (Central MA)

- Honey Bees Under the Microscope 2.0 – Advanced topics
  For beekeepers who have already taken "Honey Bees Under the Microscope" (above), or others with microscope experience. Topics covered: dissecting queens/drones, plating tissues, (Nosema/Tracheal Mite diagnosis if time allows). 9am-12pm. Cost: $40.
  ▪ February 8, 2020 – UMass Amherst (Amherst MA)
  ▪ April 18, 2020 – Location TBD (Central MA)

- Fight the Mite!
  Learn all about mite biology, mite treatment options, miticide safety, and how to create an integrated mite management plan. This is a hands-on workshop, where you will apply fake miticides, and create a sample apiary plan. 9am-5pm. Cost: $50. For more information visit:
  ▪ May 2, 2020 – UMass Amherst (Amherst MA)
Welcome back to The Research Buzz, a recurring column where I summarize some of the newest and coolest in bee research. This week, you’ll hear about a new study on “mite bombs” (cliff notes: maybe they should be called “robber lures” instead) and learn about the role that flowers may play in virus transmission between bee species. I also summarize new research on miticide residues in wax foundation and discuss an important new study on neonicotinoids and Varroa (in which researchers ask: is neonic exposure more harmful when bees are also parasitized by mites?) Finally, I include a link to a new pollinator-friendly pesticide decision-making guide out of Cornell that’s worth checking out. You can also read this column on the UMass Extension website.

“Mite Bomb” or “Robber Lure”?
When Varroa mites kill a colony, mite levels in neighboring colonies often skyrocket. But how exactly do mites spread from these “mite bombs”? Do disoriented bees from dying colonies drift into healthy hives, transporting mites? Or are collapsing colonies irresistible targets for robbing by healthy bees, who inadvertently ferry mites home? Are healthy colonies safer if they are 50m or even 300m from dying ones? These are the questions that Tom Seeley and his research team sought to answer in a paper published this summer. The researchers observed what happened to low-mite colonies placed at varying distances from a cluster of collapsing high-mite colonies. They found that mites spread via both drifting and robbing, but that robbing was the more significant mode of transmission. They also observed that colonies closer to collapsing hives (0m away) were more likely to receive mites via drift, but that distance had no effect on mite transfer via robbing (hives 300m away still saw a mite spike). They conclude that collapsing colonies should really be called “robber lures” rather than “mite bombs”.

Why is this research important?
This research is important because it shows us that: 1) robbing drives the “mite bomb” phenomenon more than drifting, and 2) hives are not safe, even at a distance of 300m. The authors suggest that it is important to repeat this study on a larger scale, and to test these questions in other locations where there might be different pressures for drifting and robbing.

Read the full study here.
Health impacts of miticides in wax foundation

The miticides coumaphos and tau-fluvalinate are ubiquitous in beeswax. In a 2018 Massachusetts study, for example, we found coumaphos in 94% of all wax samples. Coumaphos and tau-fluvalinate were once popular for controlling Varroa but are rarely used today because they impact bee health (especially queens) and accumulate in wax (they don’t degrade when melted, so likely persist in wax products and foundation). Two recently published studies explored potential impacts of coumaphos and tau-fluvalinate residues in wax foundation. A group out of Texas A&M assembled hives with miticide-free or miticide-laden foundation and observed bee health outcomes. Surprisingly, they found no effect of foundation type on hive health. However, hives with high mite levels were less likely to survive winter, underscoring the importance of mite management. Another research group out of Argentina focused on larval development. They found that brood raised on miticide-laden foundation had a lower survival rate than brood raised on miticide-free foundation.

Why is this research important?

These studies highlight that Varroa mites are the number one most important threat to honey bee health – much more important than miticide residues in foundation. However, they also suggest that coumaphos and tau-fluvalinate residues may have some negative effects, such as increased brood mortality. Given the ubiquity of these miticides in wax, future research should explicitly test their prevalence in commercial foundation and explore other effects on hive health.

Read the Texas A&M study here. Read the Argentina study here.

3 Flowers as “viral hotspots”

Pathogens threaten the health of both honey bees and native bees. In fact, there is evidence that honey bee colonies (and commercial bumble bees) could be viral hotspots, transmitting viruses to nearby native bees. Researchers at the University of Vermont recently tested whether virus transmission can occur on flowers, when honey bees leave behind contaminated feces or glandular secretions. In experimental tents, they let virus-laden honey bees (DWV + BQCV) forage on a patch of flowers, and then allowed virus-free bumblebees to forage on those same flowers. They later tested the flowers and the bumble bees for viruses. They found that honey bees indeed deposited viruses on flowers. However, the viruses were not transmitted from the flowers to the bumblebees. They caution that the viruses may have been transmitted in levels too low to be detected, and that transmission may still be happening in the wild.

Why is this research important?

This is the first paper to show that honey bees can deposit viruses on flowers. It is an important step in understanding disease transmission between bee species.

Read the full study here.
Neonicotinoids + Varroa mites impact winter bee health

This past spring, an international team of researchers published a paper testing whether neonicotinoid exposure and Varroa parasitism interact to affect the health of winter bees (long-lived bees born in autumn, who are crucial for overwintering survival). They found that winter bees exposed to the neonicotinoid thiamethoxam and parasitized by Varroa as pupae weighed less at emergence and died sooner than un-exposed and un-parasitized bees. Neonicotinoid exposure alone did not affect emergence weight or lifespan. Varroa parasitism alone did reduce emergence weight and shorten lifespan, but not as much as the two stressors combined. In short, the researchers found that Varroa parasitism alone was much more damaging to winter bee health than neonicotinoid exposure alone – but that the worst outcomes occurred when the two stressors were combined.

Why is this research important?

This is one of the first papers to demonstrate an interaction between Varroa mites and neonicotinoids on winter bee health. Mites reduce bees’ ability to detoxify pesticides, which might explain why the neonicotinoid affected winter bee health in combination with Varroa, but not alone. The fact that the researchers saw reduced lifespan in winter bees is especially significant, since these long-lived autumn-born bees are critical for winter survival. It could help to explain why hives exposed to multiple stressors go into winter strong and die before spring. Overall this study shows us that 1) Varroa control is critical for winter bee health (more important than pesticide exposure) and 2) researchers exploring health impacts of neonicotinoids should pay attention to interactions with other ubiquitous stressors like Varroa mites.

A new pesticide decision-making guide

A research group out of Cornell recently published a pollinator-friendly pesticide decision-making guide for landscape, ornamental and turf management. This is the second publication in a series that also includes a pesticide guide for tree fruit orchards. What is unique about these publications is that they discuss known synergies between chemicals, i.e. instances where the toxicity of one chemical is magnified when it occurs alongside another chemical. For examples, the new guide points out that the fungicide thiophanate-methyl is practically non-toxic alone but becomes highly toxic to bees when used in combination with imidacloprid. These guides are useful for growers, landscape professionals, and home owners who want to make informed pest-management choices.

Read the guide here.

Contact: Hannah Whitehead, UMass Extension, hwhitehead@umass.edu
Come Visit the MDAR Apiary Program Team at the NEW Field Office in West Springfield!

Voluntarily Register Your Apiary!

The Apiary Registration Process is easier than ever with the online form: [https://www.mass.gov/forms/apiary-and-colony-registration-form](https://www.mass.gov/forms/apiary-and-colony-registration-form). A total of 352 beekeepers have registered their apiaries with MDAR since April, 2017 when this online form became available. Please consider taking a quick second to register your apiary today so that the MDAR Apiary Program Bee Team can better inform beekeepers about health related concerns in the vicinity of their apiary!
Join the Apiary Program Mailing List!
We recently added the option for folks to receive email alerts and program updates: https://www.mass.gov/forms/join-the-apiary-program-mailing-list. There are currently 291 people on the list. Please consider signing up now to stay up to date on our efforts to improve honey bee health in Massachusetts!

Request Your 2020 Live Hive Apiary Inspection Requests NOW!
Given the inclement winter weather, we are no longer performing inspections of live honey bee hives, but will continue to visit for Dead-Out or expired hives, as needed, until normal health inspections resume during Spring 2020. Please consider taking a quick second to request your inspection for 2020 today to assist the MDAR Apiary Program Bee Team in planning to meet your needs in the upcoming bee season: https://www.mass.gov/forms/mdar-apiary-inspection-request-form.

How Did We Do? - Provide Feedback Regarding 2019 EEE Communication in Massachusetts!
Now that we have had a hard frost and the Massachusetts arbovirus season has come to an end for 2019, MDAR is seeking feedback about our communication activities regarding mosquitoes and Eastern Equine Encephalitis (EEE). Your feedback is important to us and will help us plan for next season. To share your feedback, please complete this short 3-question survey by December 20th: https://www.mass.gov/forms/eee-survey-2019-mosquito-season.

2019 Aerial Mosquito Application Monitoring

Stay tuned for a full report of the MDAR Apiary Program Team Monitoring efforts to be released soon!
Check Out **MAPL** – Massachusetts Apiary and Pesticide Locator!

Visit the new interactive map that was created to facilitate real time communication between beekeepers and pesticide applicators. Locate apiaries and pesticide applications near you by voluntarily registering as either a Honey Beekeeper or Pesticide Applicator. Participation in the map is voluntary and the information shared is not verified.

Sampling Kits Back by Popular Demand!

**Think You May Have AFB or EFB?**
Find Out With a **FREE Sample Kit!**

**Worried About Nosema or Varroa Mites?**
Test Your Hive With a **FREE Sample Kit!**

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AFB/EFB Sample Kits

Kit Includes:
1. Pre-labeled envelope
2. 2 packs sterile Q-tips
3. Labeled paper bag for samples

Beekeeper Cost (per kit): ~$3.00/postage

Nosema/Varroa Mite Sample Kits

Kit Includes:
1. Pre-labeled envelope
2. Wet sample secure bag
3. Labeled outer plastic bag

Beekeeper Cost (per kit): ~$4.00/postage & alcohol

The FREE kits are easy to use by following the provided instructions and materials. Samples are analyzed and results provided directly to the beekeeper from the USDA-Beltsville, MD Bee Lab within a few weeks after lab receipt. Currently, there is no fee to lab process samples so you only need to pay for postage to mail each kit. These kits are great to use on hives that die during winter to determine if any of these pathogens or parasites were an issue. Note that each kit contains materials to sample 1 hive.

What’s Your Varroa Mite Count?

Find Out With a FREE Alcohol Wash Jar!

Get a FREE alcohol wash jar, Varroa Mite IPM brochure and Planning tool that contains vital information designed to make you think, plan, learn, monitor and control mite populations in your hives. This practical sampling kit can be used for multiple hives and repeatedly throughout the season allowing for reliable monitoring. Limited quantities of these kits are available, so request yours today via email bees@mass.gov!
Mark Your Calendars for the 2020 Honey Bee Education Days at the State Apiaries

Join State the MDAR Apiary Program Bee Team to get a tour of live working honey bee colonies, hands-on demonstrations of hive management techniques, and exposure to the latest knowledge on how to best sustain healthy honey bee colonies. These events are free and open to the public, but focus on beekeepers. Registration is not necessary to attend. Participants must bring protective clothing as it will not be provided and is required to enter an apiary. The same program will be offered from 10am-12pm on each date at both apiary locations, unless specified otherwise. Alternate dates will be provided in the event of inclement weather. For more information visit: https://www.mass.gov/service-details/mdar-state-apiaries.

State Apiary Locations:
UMass Agricultural Learning Center (ALC) Farm
911 North Pleasant St
Amherst, MA 01002
-park in the field adjacent to the apiary

Essex North Shore Agricultural and Technical High School (“Essex Aggie”) 565 Maples St
Danvers, MA 01923
-park in the lot behind to the old Administration building (brick building across the street from main school entrance building), where the school buses are lined up.

APIARY PROGRAM (HONEY BEES)

MDAR’s Apiary Program mission is to promote and sustain apiculture and honey bee health in the Commonwealth by providing support to honey beekeepers, pesticide applicators, farmers, land managers, educators, regulators, and government officials.
SAVE THE DATE!

UPCOMING EVENTS, MEETINGS & MORE

(see organization/association’s websites for details)

*Friday December 28, 2019 – Deadline for Nominations for MA Beekeeper of the Year
*Friday January 10, 2020 – WCBA Monthly Meeting – Speaker: Ken Warchol
*Saturday January 25, 2020 – Board of Directors Meeting
*Friday February 7, 2020 – WCBA Monthly Meeting – Guest Speaker: Michael Palmer
*Saturday February 23, 2020 – SEMAP Food and Ag Conference
*Saturday March 7, 2020 – WCBA spring event – Guest Speakers: Dr. Judy Chen and Dr. Jennifer Tsuruda

*Wednesday March 25, 2020 – Ag Day on the Hill, Statehouse

*Saturday March 14, 2020 – MBA Spring Meeting – Guest Speakers: Dr. Tom Seeley and Kirk Webster – Topsfield Fairgrounds

*Saturday April 11, 2020 – MDAR “Winter Evaluation”
*Saturday May 9, 2020 – MDAR “Spring Evaluation”
*Saturday May 16, 2020 – MDAR “Queen Workshop I” – UMass Amherst
*Saturday May 9, 2020 – MDAR “Queen Workshop II” – UMass Amherst
*Saturday June 13, 2020 – Mass Bee Field Day – UMass Amherst
*Saturday June 20, 2020 – MDAR “Summer Management”

* August 3rd thru 7th, 2020 - Eastern Apicultural Society’s 65th Annual Short Course and Conference - University of Maine, Orono
Honey Request –
AG DAY ON THE HILL – March 25, 2020

Every year MASS BEE sends a contingent of Beekeepers to the State House to distribute small jars of Honey to all the state Legislators and Representatives.

We need your help to accomplish this task; I am requesting that each county club contribute two cases of ½ lbs. glass jars of UNLABELED honey for our distribution. 2020 Labels will be printed; each County that contributes will be named on this label.

In recent years the following clubs and companies have contributed:
Berkshire County       Franklin County      Norfolk county
Plymouth county       Worcester County     Merrimack Valley Apiaries

This donation is needed in early March 2020. I plan on attending the spring Mass Bee meeting in March to accept your clubs donation.

Please feel free to reach out to me with any questions or concerns.

Thank you! Susan Robinson  smrbus10@msn.com

Photos from Ag on the Hill 2019
It’s time to renew your Mass Bee Membership!

Benefits of Mass Bee membership:

- **Three Membership Meetings a Year**
  - The Field Day at UMass in June. The Field Day is a tremendous event allowing interactive, hands-on bee demonstrations that give great confidence to attending beekeepers of all skill levels.
  - The Spring and Fall meetings. The location of the Fall meetings moves from County to County allowing all areas of the State to participate. At all these meetings we strive to bring you 2 keynote speakers on relevant beekeeping topics. While hosted by a County, Mass Bee covers the costs of the event (venue, speakers fees and travel, food, etc.).

- **Legislative Support**
  Monitoring and responding to issues arising both locally and State wide. This Committee is politically active meeting face-to-face with law makers and regulators to rally for and protect Honeybees and pollinators. Updates on issues are presented in each Mass Bee Newsletter.

- **State Representation**
  We speak for all beekeepers in Massachusetts and make our point of view to all the states in New England. We are paid memberships to all surrounding states, allowing us to keep members aware of surrounding States activities.

Our hope is that you continue to support Mass Bee with your membership and also become active members helping to guide and implement Mass Bee Mission and activities. **Please join or renew your membership today.**

The Membership form is attached and can be accessed here: [https://www.massbee.org/membership/](https://www.massbee.org/membership/)
Massachusetts Beekeepers
Association Membership
Application

Application Date: ____________________________

Check #: ________ Amount: __________________

New: _____________ Renewal: _________________

All Memberships run from January 1\textsuperscript{st} through December 31\textsuperscript{st} in a given year.

NAME(S): ________________________________________________________________

ORGANIZATION: _____________________________________________________________________

ANNUAL MEMBERSHIP TYPE:  
Individual $15.00 __________
Family $25.00 __________
County Association $50.00 __________

ADDRESS: ________________________________________________________________

____________________________________________________________________________________

EMAIL #1: ________________________________________________________________

EMAIL #2: ________________________________________________________________

PHONE: ________________________________________________________________

County Beekeeping Association: ______________________________________________________

Completed applications along with payment made out to the "MBA" should be mailed to:

MBA Memberships
PO BOX 232, Marion, MA  02738

or

Fill out the form online on our web site at https://www.massbee.org/membership/

Annual membership dues are subject to change; please check our web site for current information.

Rev 12/14/19