Massachusetts Beekeepers Association

Uniting beekeepers through education, advocacy and sponsorship so as to protect and foster honeybees and beekeeping in Massachusetts and beyond.

Mass Bee Events

June 15
Mass Bee Field Day
at UMass Amherst State Apiary

August 11
Board of Directors Meeting

September 7
Board of Directors Meeting

November 2
Board of Directors Meeting

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Presidents Message

Well we had a great conference this spring in Topsfield. Attendance was good and we had many new bee school students. The newbes try to acquire as much information as possible as they navigate their new endeavor. This is when I encourage all of the counties that educate new beekeepers to also make the same effort to provide mentors for all of the new students. Additionally, I encourage our counties to plan and execute a “field day” as they receive their new packages to demonstrate the mechanics of practical beekeeping in the field. Then I also ask that our counties encourage their club members to attend the Franklin County/Mass Bee field day in June 15th at U Mass. Along with the camaraderie of fellow beekeepers you have the added ability to pre-order and purchase your beekeeping supplies from the vendors who attend without having to pay freight. I look forward to seeing everyone there!

Your board of director’s has been working diligently to present good information in the newsletter and organize great speakers and relevant topics for all beekeepers. Please assist us by giving us feedback so we can give you what you want and need. The newsletter also invites our members to submit articles to enlighten fellow members and for publication. Our organization is only as good as our members who participate and spread the great information we distribute, please be an advocate for our great association. - Pete
MASS BEE’S SPRING 2019 MEETING

MBA’s Spring Meeting was hosted by the Essex County Beekeepers Association on March 16, 2019 at the Topsfield Fairgrounds was another hit this year. The St. Patrick’s Day theme decorated the facilities providing a light and cheery atmosphere. There were three great guest speakers covering a broad spectrum of beekeeping: Rick Reault, owner/operator of New England Beekeeping who provided an overview of creating a beekeeping business; Angela Roell from Yard Birds Farm and Bees who gave two presentations, one on planning for regenerative apiary management and the second on climate resilient beekeeping; and Dr. Robert Brucker from Brucker Laboratory at the Rowland Institute at Harvard University who gave a presentation on the heritable effects of acute pesticide poisoning. Both newly crowned, the Massachusetts Honey Ambassador Ryan Duggan and the Essex County Honey Ambassador Kathy Balestrier were introduced, and Dave Thayer was awarded Beekeeper of the Year!

Check out the photos of the event on page 3.

Beekeeper of the Year

Dave Thayer was named 2019 Beekeeper of the Year at the MBA Spring Meeting.

Congratulations Dave!

There is only one real reason to keep bees, and that is because they are fascinating. If you just want honey, make friends with a beekeeper.

-Australia beekeeper, Adrian the Bee Man
Summer 2019 Newsletter

The Massachusetts Bee

Honey Ambassadors Ryan Duggan and Kathy Balestrieri

Angela Roell, Yard Birds Farm and Bees

Dr. Robert Brucker, Brucker Laboratory, Rowland Institute, Harvard University

MBA President Pete Delany and his wife Chris Delany

Honey Ambassadors Ryan Duggan and Kathy Balestrieri

MDAR Chief Apiary Inspector Kim Skyrm

UMass Extension Honey Bee Extension Educator Hanna Whitehead

Vendors
BEES UNDER THE MICROSCOPE

On April 6th MDAR and UMass Extension provided a workshop titled “Bees Under the Microscope”. The event was held at the entomology lab at UMass Amherst. About 25 beekeepers attended the event, including a few apiary inspectors from MA and CT. Jean Mukherjee, a veterinarian, started off the workshop covering the basics about using microscopes. Then, Kim Skyrm highlighted the external anatomy of the honey bee which we viewed up-close under the microscope even seeing the components of the mouthparts and the individual segments of the antennae – did you know that worker bees have 12 segments and drones have 13 segments?

Hannah Whitehead then covered the internal anatomy which included dissecting the bee to view the internal structure – may sound gross but was really fascinating! The ganglion, the sparkly tracheal tissue, spaghetti-like Malpighian tubes, the famous Varroa-mite loving fat body and many more were amazing to see. We also were able to prepare a sample of dead bees and look at the sample for Nosema under the microscope – easily done even for the novice.

If you missed it, they will be hosting another workshop in November on the eastern part of MA this time to accommodate folks in this part of the state. The workshop is highly recommended. Also, if you were not already impressed with Kim, during this workshop you will get to see Kim at best talking about the science and anatomy of a honey bee – as Paul Tessier stated, “Kim is in her element”.

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Ag Day on the Hill 2019

Once again, we had a great time at, Ag Day On The Hill. Honey was donated from Merrimack Valley Apiary’s Berkshire, Franklin, Essex, Hampden, Norfolk and Worcester county. We had over 30 volunteers to deliver jars of Honey throughout the state house. We had fun talking to all the legislators about the Pollinator Protection Bill and more funding for the Apiary Inspection Program. Hope you can join us next year!

MBA SUPPORT FOR MDAR

At our Spring Meeting on March 16, 2019, the Mass Bee Members unanimously voted to send a letter to the House Ways and Means Committee in support of funding for the MDAR Apiary Inspection Program (M-AIP), specifically $30,000 of supplemental funding for the remainder of fiscal year 2019 (ending June 30, 2019) and a budget of $130,000 for fiscal year 2020 (beginning July 1, 2019). The supplemental funding would be used to restore the apiary inspector’s hours from the reduced level of 18/week back to the normal 37 hrs/week. We believe that the roughly 50% decrease in budgeted hours is not appropriate or helpful to the health of the honey bees in Massachusetts particularly at this time of year when inspection work is the heaviest (Dead-Outs are highest, purchased nucs and packages are coming into the State, and commercial hives are coming into the State for pollination.) The recommended budget of $130,000 for FY2020 would cover the inspectors for the 12-month period running from July 1, 2019 to June 30, 2020.

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A letter of support for the M-AIP budget was hand-delivered to Senator Anne Gobi and Representative Mary Keefe by MBA Vice President Mary Duane at the Ways and Means meeting in Springfield on March 20, 2019. This meeting was designed for legislators to ask questions of Secretary Beaton (Environmental & Energy) and Secretary Pollak (Transportation). Representative Mary Keefe and Commissioner LeBeau were in attendance. Representative Keefe told Secretary Beaton about her concern regarding the M-AIP funding. She complimented MDAR for all that they do but stated that more funds are needed to fill the needs until June 30th due to all the new beekeepers. She commented that Beekeepers were in the audience and that they support this supplemental funding.

To date the supplemental funding has not been approved and the FY2020 budgets are currently under review. So, there is still time for us to act but we need to act quickly.

If you support the M-AIP funding recommendations, Please call your representatives about these budget amendments (Find the contact info for your State Representative here.) It’s easy and the whole thing will take less than five minutes. It’s important that our legislators know that backyard, hobbyists, and commercial beekeepers are paying attention and think these items are worth supporting.

Key points you may want to make:

- Healthy honey bees are critical to the Agriculture in Massachusetts
- The M-AIP is a key element in helping to improve the health of honey bees in the Commonwealth.
- The M-AIP not only helps individual beekeepers identify and control pests and diseases, the M-AIP is able to see trends across the state and communicate that information to the larger beekeeping community.
- Based on the prior year’s reporting, the loss rate of honey bee colonies in Massachusetts was 50-65%. This loss rate puts Massachusetts at the #8 position in the country and #2 in New England for highest honey bee mortality.
- Of significant concern is the three-fold increase over the past year in an infectious disease called European Foul Brood, which if not controlled can weaken and ultimately kill a colony. Through the work of the M-AIP teams not only has this increase been identified but importantly they have been able to communicate this trend to the beekeeping community across the Commonwealth so action could be taken before colonies are lost and/or it becomes a large-scale problem.

In addition to a call, or an alternative to a call if you prefer, would be a letter to the Governor and the Chair of the Ways and Means Committee (Mr. Michael Rodrigues, Chairman of the House Committee on Ways and Means).
Mass Bee Field Day

The Massachusetts Beekeepers Association is holding our annual FIELD DAY on Saturday, June 15, 2019. The event is hosted by Franklin County Beekeepers Association. The theme of this year’s Field Day is **Expanding Your Bee Awareness - What to Look for in Your Hives.** The event is free and open to all.

We are returning to **THE UMASS AGRICULTURAL LEARNING CENTER on 911 NORTH PLEASANT STREET AMHERST, MA.** Follow the Yellow Bee Signs!!

The AGRICULTURAL CENTER is a 70 acre “Living Classroom” located on the UMASS Amherst campus. The facility hosts the State’s (MDAR) and UMASS research Apiaries and features Fruit / Vegetable, Vineyard, Landscaping designs and Pollination Gardens. **We ask that ALL bring your veil for protection.** Free Parking on site.

**Place your orders with your favorite vendor and enjoy FREE SHIPPING.** Better Bee, Mann Lake, Starhart Hollow, Slovenian Beekeeping, Nature’s Own Design Apiary Products (NOD), Bee Wear Clothing, a Glassblower and Artists will exhibit in the open area located adjacent to the main tent where everyone meets. Chris Hewitt and Lynn White of Richland Honey Bees of Virginia, members of the Russian Honeybee Breeders Association will share their experiences. **Morning Coffee / Muffins and a $10 Catered Barbeque lunch will be available. Please pre-register for Lunch on the Mass Bee web site.**

**Mass Bee Field Day is FREE to All.**

- Registration begins at 8:30 am
- Welcome Announcements 9:00 - 9:30 am
- First Session 9:45 - 10:45 am
- Second Session 11:00 - 12:00 pm
- Lunch 12:00 – 1:30 pm
- Smoker Contest
- Win Great Vendor Prizes in Our Raffle
- Third Session 1:30 – 2:30 pm
- Fourth Session 2:45 – 3:45 pm

If you are interested in presenting, please contact Dan Conlon of Warm Color Apiary. ([warmcolors@verizon.net](mailto:warmcolors@verizon.net))

For updates please check: [https://www.massbee.org](https://www.massbee.org) or check the Facebook page [https://www.facebook.com/MassachusettsBeekeepers/](https://www.facebook.com/MassachusettsBeekeepers/)
Spring 2019 Legislative Update

By Cliff Youse

In January Representative Carolyn Dykema re-filed her pollinator protection bill from last session, H.4041. The new bill, H.763 - An Act to protect Massachusetts pollinators, was co-sponsored by an unprecedented 153 legislators and Massachusetts Attorney General Maura Healey, easily surpassing the 135 cosponsors that H.4041 received in the previous session. The bill has been assigned to the Joint Committee on Environment, Natural Resources and Agriculture (ENRA).

H.763 is essentially the same bill as its predecessor, H.4014, with a couple of minor changes. It limits the use of the neonicotinoid class of systemic pesticides to licensed pesticide applicators only. It also contains a disclosure component that gives consumers the information they need to opt out of purchasing pesticide application services where neonicotinoids are used. The states of Maryland and Connecticut have already passed similar legislation and it is common sense legislation whose time has arrived.

As a result of the increasing public awareness of the negative environmental effects of pollinator habitat loss, neonicotinoids and glyphosate, there are at least nine bills that either directly or indirectly impact pollinators if passed.

There are three bills that specifically target pollinators.

- H.763 - An Act to protect Massachusetts pollinators, Representative Carolyn Dykema.
- H.818 - An Act to protect pollinator habitat, Representative Mary Keefe.
- S.463 - An Act protecting pollinators by eliminating harmful products, Senator Jamie Eldridge.

There are also several other bills that, while not specifically targeting pollinators, could have a positive impact on pollinators if they pass.

- H.776 - An Act empowering towns and cities to protect residents and the environment from harmful pesticides, Representative Dylan Fernandes.
- H.791 - An Act relative to improving pesticide protections for Massachusetts schoolchildren, Representative Carmine Gentile.
- H.792 - An Act relative to the prohibition of the transfer or use of glyphosate in the Commonwealth, Representative Carmine Gentile.
- S.432 - An Act to restrict the use of pesticides around children, Senator William N. Brownsberger.
- S.447 - An Act empowering towns and cities to protect residents and the environment from harmful pesticides, - Senator Julian Cyr. (S.447 is a companion bill filed to demonstrate support for H.776.)
- S.499 - An Act relative to the use of glyphosate on public lands, Senator Jason Lewis.

All these bills have been assigned to ENRA.

Another important development is that the final House budget bill, H.3801 - An Act making appropriations for the fiscal year 2020, includes a $100,000 appropriation through the Department of Agricultural Resources for a scientific review of the impacts of neonicotinoid pesticides on pollinators. H.3801 was passed by the House and now sits in Senate Ways and Means. The language for this appropriation can be found under Department of Agricultural Resources line item 2511-0100.
TIPS FROM THE BEE WHISPERER

By Ken Warchol

The bees are looking back at the spring month of April and wondering why it was so wet, cold and dismal. However, we know that spring is not always conducive for the bees. The bees were not able to get out much to collect the maple nectar and pollen that they depend on for spring buildup. I found myself feeding syrup and pollen patties just to keep them alive as winter honey stores were pretty much used up because of the early brood rearing start that went back to December this season. The numbers in the colonies were very high by February and the bees needed more stores for producing heat and feeding the larva. The excessive rain precluded the bees from also getting out and washed out the nectar.

Here we are now in May with hopes that the weather will get warmer and less rainy so the bees can get out and get what they need including the needed nutrients in nectar that they do not find in sugar syrup. This will make for less stressed and healthier bees being raised. The wide assortment of pollens will give the larva the balanced diet they need as opposed to pollen patties. May brings with it the dandelions, fruit and berry blooms along with Russian olive and then black locust at the end of May. The warmer temps also allow the bees to expand their brood nest into both deep brood chambers. The bees now start filling both chambers with the incoming nectar and pollen allowing us to stop feeding the overwintered hives. New packages need to be fed to allow the bees to draw out the new wax foundation frames which takes large amounts of nectar. New beekeepers you still need to keep feeding until all wax is drawn out. May also brings with it other emerging problems. Swarming issues and honey bound hive issues. Swarm prevention should begin by mid-May and usually keeps us busy until the end of June. This can be done in a variety of ways. It is crucial to make weekly checks during this period to prevent losing a valuable swarm and losing a large part of your honey crop. New beekeepers usually do not have to worry about swarms until the end of the summer when their hives reach peak numbers of 60-80 thousand bees. Check with mentors on the many swarm prevention methods. Start looking for those swarm cells in May. Also keep a watch for honey bound conditions in the colony that helps to bring about swarms because it creates congestion in the hive and leaves little space for the queen to lay eggs and expand the brood nest. I would recommend getting your honey supers on to avoid this condition. I usually put them on by mid-May. This year both swarming and honey-bound conditions may be delayed due to the extended cold and rainy season.

June brings with it another bad problem in over-wintered colonies, VARROA MITES! I usually see a number of my colonies reaching treatable levels of varroa mites by mid-June. Starting in May and at the end of each month I do ten alcohol washes and post the results on the Northbridge Beekeepers websites so all our beekeepers can see where we stand with mites and lets them know when it is time to treat. Over the past 5 years I have found that overwintered hives reach treatable levels in June and then in August and finally in October again before they go into winter cluster. Consult with your bee clubs on best treatments for the different months as some are temperature dependent. Heavy mite laden colonies lead to virused hives which lead to parasitic mite syndrome which will affect all beekeepers around you through fall robbing.

July brings with it heat, dryness and dearths which leads to stress on the colonies as they can find little nectar and the stores in the colony get used up quickly especially if you remove the supers with all your early honey leaving the bees

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with few stores. My scale hives often show a decline of weight in July due to the dears in many years of honey production before bouncing back with the fall flow. It may be necessary to feed syrup in some years. You need to get into your colonies to monitor this. Remember an ounce of prevention is worth its weight in gold July’s heat may also require you to vent your hive to help the bees to vent the excessive July heat especially if you see the bees bearding on the front of your hive and it is not swarming.

August usually brings back the honey flow with large stands of goldenrod, Joe-Pye weed and other fall flowers starting their early blooms by mid-August. Be prepared with your honey supers so the bees do not honey bound the hives during a time when they should be expanding the brood for a large winter cluster of bees. They will also be bringing in large amounts of fall pollen for the long winter to have enough for winter brood rearing in January and February. The end of August is also the beginning of winter preparation by checking your queen laying pattern and other issues in preparation for winter which will be discussed in our next newsletter. The August honey will be the last we collect for ourselves leaving the September flow for the bees. We cannot be greedy and must leave 80 pounds for the bees to winter. As mentioned earlier, August usually requires a mite evaluation and treatment if we find high mites so the fall cluster going into winter is not compromised by the mites leaving them with vectored viruses. Remember, the bees need our help more than ever. It is a partnership between you and your bees. They will do their part and you need to do yours. Until the next time,

Ken,
The bee whisperer

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**Integrated Pest Management (IPM) Options for Varroa Mites**

<table>
<thead>
<tr>
<th>NAME</th>
<th>ACTIVE INGREDIENT [CHEMICAL CLASS]</th>
<th>MODE OF ACTION</th>
<th>APPLICATION SEASON &amp; TEMPERATURE GUIDELINES</th>
<th>TREATMENT DURATION</th>
<th>KEEP HONEY SUPER ON?</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>Apivar®</td>
<td>amitraz [imidazoline]</td>
<td>contact</td>
<td>plastic strip</td>
<td>Spring, Fall</td>
<td>42-56 days</td>
<td>no</td>
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<tr>
<td>Apistan®</td>
<td>tau-fluvalinate (pyrethroid)</td>
<td>contact</td>
<td>plastic strip</td>
<td>Spring, Fall (&gt;50°F)</td>
<td>42-56 days</td>
<td>no</td>
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<tr>
<td>Checkmite®</td>
<td>coumaphos [organophosphate]</td>
<td>contact</td>
<td>plastic strip</td>
<td>Spring, Summer, Fall</td>
<td>42-45 days</td>
<td>no</td>
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<td>Apiguard®</td>
<td>thymol</td>
<td>fumigant</td>
<td>gel or gel tray</td>
<td>Spring, Fall [60°F to 105°F]</td>
<td>28-42 days</td>
<td>no</td>
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<tr>
<td>Api Life Var®</td>
<td>thymol, menthol, eucalyptus oil</td>
<td>fumigant</td>
<td>tablet</td>
<td>Spring, Summer, Fall [64°F to 90°F]</td>
<td>26-32 days</td>
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<td>Mite Away Quick Strips® (MAQS)</td>
<td>formic acid</td>
<td>fumigant</td>
<td>gel strip</td>
<td>Spring, Summer, Fall [50°F to 85°F]</td>
<td>7 days or 21 days</td>
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<td>Formic Pro®</td>
<td>formic acid</td>
<td>fumigant</td>
<td>gel strip</td>
<td>Spring, Summer, Fall [50°F to 85°F]</td>
<td>14 days or 20 days</td>
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<td>Oxalic Acid</td>
<td>oxalic acid dihydrate</td>
<td>contact, fumigant</td>
<td>vapor or liquid</td>
<td>Spring, Fall</td>
<td>varies by application type</td>
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<td>HopGuard®II</td>
<td>potassium salt of hops beta acids</td>
<td>contact</td>
<td>cardboard strip</td>
<td>Spring, Summer, Fall</td>
<td>30 days</td>
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**Looking for Mite Treatment Options?**

HEALTHY WINTER BEES

By Ed Szymanski

It’s never too early to start thinking about getting our bees ready for winter. In fact, we’re always getting our bees ready for winter. The key to getting our bees through winter is having them healthy and well-nourished before the winter bees are raised.

At the Mass Bee Fall Meeting last November, Dr. Jamie Ellis did something that was very effective – he marched back and forth across the front of the auditorium proclaiming “Varroa mites are killing your bees!” over and over. Everyone there remembered this. He’s right – they are. But all is not lost, we can improve our survival rates if we work at it. I think that understanding a problem goes a long way toward fixing it. So, add a picture of me, marching back and forth in front of the hall, chanting “Healthy winter bees! Healthy Winter Bees!”

Lately, I’ve seen posts asking questions ranging from “Why did my bees die? I treated for mites” to “Why does it matter what parts of the bee Varroa mites feed on?” to “When is the right time to treat for mites anyway?” The answers are related - It’s all about healthy winter bees!

You may be somewhat familiar with the idea of “fat bees” – the workers that live for an extended period of time and carry the colony through the winter until spring when new brood can be raised. Honey bees have “fat bodies”, sections of tissue in the abdomen which act in a similar way to our liver and also store fat, glycogen, proteins and enzymes. In the summer, the fat bodies are small or nonexistent in workers, but in the early fall when natural pollen supplies are getting short, a new batch of workers are raised - workers with enlarged fat bodies, and these are the workers that will live through until spring. We call them “fat bees” or “winter bees”.

The secret is a compound called Vitellogenin, which resides in the bees’ fat bodies. Vitellogenin is a glycolipoprotein, having properties of a sugar, a fat and a protein. I’m not going to get too technical, I’m not a scientist. I do know that it has some very important qualities. It serves an immune system function. It acts as an antioxidant that prolongs the bees’ lifespan. And, it allows nurse bees to make royal jelly even when there’s no natural pollen available. You can see that this bee “fountain of youth” (Randy Oliver, Fat Bees, pt. 1) plays a critical role in raising….Healthy Winter Bees!

Dr. Sam Ramsey proved Dr. Dennis VanEngelsdorp’s theory that Varroa mites feed on the fat bodies of the bee rather than the hemolymph (blood). Varroa populations tend to maximize in August/September – when the winter bees are being raised! This was the “light bulb” moment during Sam’s presentation at Bristol County in August 2017. The Vitellogenin stores in the winter bees are compromised by the Varroa mites feeding on them. Lower Vitellogenin levels shorten the lifespan of the winter bees, so colony populations dwindle in the late winter, and, since the nurse bees’ ability to make food for the new brood is compromised, there are few new bees being added to the population, right when they need it. Perhaps that explains how your bees died – they seemed to be making through January, no Varroa collapse occurred – you thought ~continued on next page~
they were going to be ok, but the population decreased until they weren’t able to keep warm. The cold did not really kill your bees, though – the mites did! (Cue Jamie).

So, what can we do? This teaches us is that our Varroa mite levels must be under control by mid-to-late August. I have heard people say “If you haven’t treated for mites by August 15, your bees are going to die”. I disagree with that, but you do need to know what your mite levels are at this critical time. How can you know when to treat if you don’t know your mite load? I feel that it is critically important to test for Varroa mite levels, preferably using an alcohol wash, at least monthly, and make your treatment decisions based on actual counts. If we’re getting low (1 or 2 mites/300 bees) counts on August 15, we’re not going to treat. We’re going to test again on Sept. 1st. We like to use the formic acid product (MAQS or Formic Pro), but only once, when they need it most. This past year, our counts didn’t reach treatable levels until Sept. 15. I will not use my most powerful treatment when they don’t need it. And if you only do a late treatment, without knowing what the August/September levels were, you may kill a bunch of mites, but it’s a false sense of security because your winter bees are already compromised. A late fall Oxalic Acid (drip or vapor) treatment helps to knock down the winter mite population, but the mites must be under control before that.

I will continue to test, observe, and make decisions based on those results and will never keep bees strictly by the calendar. It doesn’t work. Things are always changing; we need to be aware of what’s happening in our colonies at all times.

As late summer comes, remember to monitor your food stores as well. Pollen and nectar can be short in August/September, just when your bees need the best possible nutrition, they can get. Food shortages may cause queens to suspend laying, and if she doesn’t recover in time, the winter bee population will be decreased. Let all of your late season beekeeping activities have the same goal in mind –

HEALTHY WINTER BEES!

The HONEY BEE HEALTH COALITION has several videos demonstrating techniques for combatting Varroa mites

(https://honeybeehealthcoalition.org/varroa/)
**BEE AWARE – Survey Date Extended to May 31st!**

*Complete the MA Honey Bee Health Survey.* Given the HUGE interest in the survey this year combined with delayed Spring 2019 weather, we have extended the date for submissions to May 31, 2019. This survey serves as a tool for Massachusetts honey beekeepers to share data on colony health for the current bee season: April 2018 - May 2019. Participation in this [survey](#) is voluntary. So far, a total of 599 beekeepers have responded, making this the most successful survey to date! After completion, participants will be mailed a FREE – *Bee Aware* sign at the mailing address they provide. Note, that given higher than expected response rate to the survey this year combined with the limited number of signs in the first order (only 500 initially), new signs had to be ordered. If you submitted a survey prior to April 1st, 2019 and have not received a sign, please reach out directly to Kim to follow up. Those that respond after April 1st, 2019, are put on the list for the new sign order.

**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. A total of 242 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 when investigating apiaries in the vicinity of those discovered to have infectious disease(s)!

**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 213 people on the list. Please consider signing up now to stay up to date on our efforts to improve honey bee health in Massachusetts!

**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.
Honey Bee Hive Pesticide Update

The following is a list of U.S. Environmental Protection Agency (EPA) and Massachusetts registered pesticide products labeled for use in honey bee hives for Varroa mites. These general use products can be applied to individual beekeeper owned hives. If applying to hives other than those owned by the beekeeper, then a pesticide license is required. Visit the following pesticide regulations to learn about the pesticide applicator license: [https://www.mass.gov/files/documents/2017/10/30/333cmr10.pdf](https://www.mass.gov/files/documents/2017/10/30/333cmr10.pdf). These product registrations are currently active and will expire on 6/30/2019 unless renewed by July 1, 2019. Stay up to date on current product registrations and label changes by visiting the Massachusetts Pesticide Product Registration Information website ([http://www.kellysolutions.com/MA/searchbypest.asp](http://www.kellysolutions.com/MA/searchbypest.asp)) and search for “Varroa mite”.

Listed in Order by Product Name (active ingredient (a.i)):

1. Api-Bioxal (a.i. oxalic acid dehydrate), EPA Reg. No. 91266-1-73291;
2. ApiGuard (a.i. thymol), EPA Reg. No. 79671-1;
3. Api Life Var (a.i. menthol, eucalyptus oil, and thymol), EPA Reg. No. 73291-1;
4. Apivar (a.i. amitraz), EPA Reg. No. 87243-1;
5. Zoecan Apistan Anti-Varroa Mite Strip (a.i. fluvalinate), EPA Reg. No. 2724-406;
6. CheckMite Plus (a.i. coumaphos), EPA Reg. No. 11556-138-61671;
7. CheckMite + Bee Hive Pest Control Strip (a.i. coumaphos), EPA Reg. No. 11556-138;
8. Formic Pro (a.i. formic acid), EPA Reg. No. 75710-3;
9. HopGuard II (a.i. potassium salts of hop beta acids), EPA Reg. No. 83623-2;
10. Mite Away Quick Strips (a.i. formic acid), EPA Reg. No. 75710-2; and
11. Oxalic Acid Dihydrate (a.i. oxalic acid dihydrate), EPA Reg. No. 91266-1-91832.

2019 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-noon 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: [www.mass.gov/service-details/mdar-state-apiaries](http://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
565 Maples St
Danvers, MA 01923
-park in the lot behind to the old Administration building, where the school buses are lined up
UMass Extension Update

1) Check out the second 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) We’ve created a UMass Bee Extension mailing list! To sign up, click on this link: https://list.umass.edu/mailman/listinfo/pollinator-extension-l (just enter your email, no need to enter a password), or email Hannah Whitehead at hwhitehead@umass.edu

3) Explore our upcoming workshops:
   
   a. June 2, 8:30am-12:30pm – Creating Pollinator Forage on the Landscape with Tom Sullivan from Pollinators Welcome. Held at UMass Amherst. Come learn about planting for native pollinators and honey bees! Participants will get a specially designed native bee seed mix from That’s a Plenty Farm.

   b. Stay tuned for an upcoming workshop on non-chemical mite management, and a second date/location for “Fight the Mite!” and “Honey Bees under the Microscope”, in case you missed them the first time!

4) On May 4, we held a full-day “Fight the Mite” workshop, all about managing Varroa mites. It was co-led by Hannah Whitehead, Kim Skyrm and Natalia Clifton (UMass extension pesticide safety). We drew beekeepers from several states, with a wide variety of beekeeping experience (from newbees to folks with >10 years’ experience!). During the workshop, beekeepers practiced reading miticide labels, conducting alcohol washes, and applying fake treatments (which they presented in front of the group). They also practiced making an integrated pest management plan that incorporates sampling, non-chemical practices, and chemical treatments. We’re looking forward to hosting this workshop again in late summer!
Welcome back to The Research Buzz, a recurring column where I summarize some of the newest and coolest in bee research. This week, we start with article in *Science* that explores the effects of neonicotinoids on bumble bee nesting behavior. It is the first to document in detail how neonics alter in-hive behavior, so it is relevant to anyone passionate about pollinators (even if it is not specifically about honey bees). You will also learn about research that explores the effect of hive spacing on varroa levels, the impact pollen supplements on colony growth, and the consequences of migratory pollination for bee health. We will end with some fun facts about the nutritional value of honey bee brood as food for humans! You can also read this column on the UMass Extension website.

### Neonics Affect Bumble Bee Nesting Behavior

A research team out of Harvard tested the effect of neonicotinoids on bumble bee in-hive behavior. They exposed bees from some colonies to the neonic imidacloprid, and then used a robotic observation platform to continuously track bee movement within the colony. They found that, at night, bees in imidacloprid-exposed colonies spent less time caring for brood and more time at the nest periphery, when compared to bees in non-exposed colonies. They also found that imidacloprid-exposed colonies built less nest insulation and therefore experienced greater in-hive temperature fluctuations. Overall, these results help to explain why neonic exposure slows bee colony growth.

**Why is this research important?**

Previous research has shown that neonicotinoids reduce colony growth, impair foraging behavior and reduce floral learning in multiple bee species (including honey bees). *This paper is the first to show that neonicotinoids also impair brood care and thermoregulation.* This research is also interesting because it uses a new technology to continuously monitor in-hive behavior, which gives us a window onto the intimate effects of pesticide exposure.

*Read the full study [here](#).*
How Far Apart Should You Space Your Hives?

A [2015 study](#) found that when hives were clustered (1m apart) bees were more likely to drift to the wrong hive and mite levels were higher than when hives were dispersed (21-73m apart). In other words, increasing inter-hive distance reduces varroa mite transmission. As a beekeeper you might read these results and ask: so how far apart do I need to place my hives to see these beneficial effects? That’s exactly the question that researchers from the University of Georgia sought to answer in a recent study. They set up 15 hive pairs that were spaced either 0m, 10m or 100m apart. They reduced mite levels in all hives to nearly zero, and then inoculated one hive in each pair (the “donor” hive) with 300 female mites. The other hive (“recipient”) was not inoculated. Four months later, they found that 100m-spaced hives had fewer mites on average than 0m or 10 m-spaced hives. This was true for both the recipient and donor hives in each pair.

Why is this research important?
This study confirms previous research showing that more isolated hives have lower mites; it also tells us that hives need to be spaced pretty far apart (closer to 100m, rather than just 10m) for this effect to be observed. This is bad news for those of us living in bear country, who need to keep hives clustered inside of an electric fence. However, this research also reminds us how important it is to reduce drift in whatever ways we can; other options include rotating hive entrances, painting hives different colors, and placing landmarks like rocks or bushes in between hives.

Read the full study [here](#).

How Beneficial are Protein Supplements?

Researchers from the University of Florida tested the effect of mid-summer protein feeding on colony strength and *Nosema* levels in 75 commercial hives. They compared six treatments: no pollen, four commercially available pollen supplements and wildflower pollen. They found that hives fed supplemental protein were the same size, and had similar *Nosema* levels, as non-supplemented hives.

Why is this research important?
86.5% of beekeepers who answered the BIP management survey from 2011-2017 say that they use commercial protein feed. However, past research has found that protein supplements can have mixed effects on hive strength. A [multi-year study](#) found that spring protein supplements cause earlier brood rearing; however, there was no effect on mid-summer hive population or honey production, except in a year with exceptionally bad weather. Other studies found that protein supplements may increase *Nosema*. This paper found no effect of protein supplements on *Nosema*, but also no effect on hive strength. Taken together, this research suggests that protein supplements may only be beneficial in bad weather years. More research is needed to determine the positive and negative effects of protein feeding.

Read the full study [here](#).
Effects of Migratory Beekeeping on Bee Health

Researchers from the University of Vermont and the University of Maryland studied the effect of long-distance transportation (to almond pollination) on hive size and disease for migratory colonies as well as nearby stationary colonies. They found that migratory colonies returned with fewer bees and briefly had higher levels of black queen cell virus. They also found that stationary colonies near the returning migratory bees had more deformed wing virus than isolated stationary colonies.

Why is this research important?

1.5 million honey bee colonies are trucked to California each February to pollinate almonds (that’s more than half the total number of commercial colonies in the US). There are many reasons to suspect that bringing bees to almonds negatively impacts their health: they consume a single-source diet, are exposed to pesticides, endure stressful long-distance transport and may pick up diseases from other hives. It is also possible that migratory hives bring diseases back to stationary hives in their home state. However, few studies have looked at the effect of almond pollination on the health of migratory hives or nearby stationary hives. This research showed that bringing bees to almonds can have modest, temporary, negative effects on hive health, and that nearby stationary hives may be at a slightly higher risk for deformed wing virus. It suggests that we need to do more research to understand the effects of migratory pollination on bee health.

Read the full study here.

Bee Brood...as Food?

Entomophagy (or eating insects) is one solution that has been proposed to meet future protein needs, which are expected to increase 76% by the year 2050. Honey bee larvae and pupae are eaten in many cultures and are one possible insect protein source. In this paper, researchers tested the nutritional value of brood powder and found that it contains 20-25% protein and high antioxidant activity (for comparison, pork has a protein content of 27.7%). A trained sensory panel described the aroma profile of brood powder as “buttery” and “milky”. So instead of feeding drone pupae to the chickens, next time you could bring them inside and fry them up for a protein-rich snack. When your friends give you weird looks, tell them it’s high in antioxidants!

Read the full study here.

Contact: Hannah Whitehead, UMass Extension, hwhitehead@umass.edu
SAVE THE DATE! Upcoming Events, Meetings & More

* May 18th – MDAR’s Queen Workshop I – UMass Amherst
* May 25th – MDAR’s Queen Workshop II – UMass Amherst
* June 1st – Langstroth Bee Fest, Greenfield
* June 8th – MDAR’s “Hive Dive” Summer Management – UMass Amherst
* June 15th – Mass Bee Field Day – UMass Amherst
* July 13th – MDAR’s Pests, Parasites and Pathogens – UMass Amherst
* August 10th – MDAR’s Fall Management, Part 1 – UMass Amherst
  September 8-12 – [APIMODIA](http://www.apimodia.com), Montreal, Quebec, Canada
* September 14th – MDAR’s Fall Management, Part 2 – UMass Amherst
* September 21st (10 AM -2 PM) – MDAR’s Honey Extraction - Location TBD
* October 12th – MDAR’s Winter Prep

* Saturday November 16th – [Mass Bee Fall 2019 Meeting](http://www.massbee.org) (hosted by Norfolk County Beekeepers Association)

Are you looking for ways to learn more about Beekeeping and to have fun with Beekeepers across the east coast?

If so, consider attending this year’s Eastern Apicultural Societies annual conference. This conference is July 15-19 in Greenville, SC. The week is packed full of speakers talking about the most current Beekeeping information. This year’s focus is on Honey Bee Health. Speakers will include Dr. Dewey Caron, Jennifer Berry, Dr. Kirsten Traynor, Dr. Jay Evans, and Dr. Keith Delaplane. In addition, Bee wranglers will be in the Bee yard all week long ready and willing to open a hive with you to help improve your hive skills. There are programs for beekeepers of all levels of experience. Social events are planned for each night including an event at a local Brewery. Further information can be found at the EAS website-easternapiculture.com and by contacting MA EAS delegate Mary Duane at maryshoney@gmail.com

Are You Planning on Celebrating World Bee Day?

Is Your County Bee Club or Other Bee-Loving Organization Planning on Celebrating the 2nd Annual World Bee Day? If so, Mass Bee Wants to Highlight Your Efforts in the Fall 2019 Newsletter. See page 9 of the MBA Spring 2019 Newsletter for additional information.
Become a Member of Mass Bee

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 these meetings moves from County to County allowing all areas of the State to participate. At 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.

✓ Pesticide Support/Advisory
  The Mass Bee board of directors newly created a voting member position of Director of Applied Materials. This position is a resource for all members and County Associations looking for the correct response to questions about the application of pesticides, fungicides, and herbicides.

✓ 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 activities. Please join or renew your membership today.

Please note the mailing address for Massachusetts Beekeepers Association has changed. The new address is:

Massachusetts Beekeepers Association
PO Box 232
Marion, MA 02738
Massachusetts Beekeepers Association Membership Application

Application Date: ____________________________

Check #: _______ Amount: ______________________

Membership Year: ______________________________

New: __________ Renewal: _______________________

All Memberships run from the date of the Annual Meeting in November until the subsequent Annual Meeting.

NAME(S): ____________________________________________________________________________

ORGANIZATION: ______________________________________________________________________

ANNUAL MEMBERSHIP TYPE: Individual $15.00 __________

Family $25.00 __________

Organization $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

Applications may also be emailed to correspondingsecretary@massbee.org

This Membership Application can also be downloaded from our web site www.massbee.org

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