nnjbees.org

December 2016

NORTHEAST NEW JERSEY BEEKEEPERS ASSOCIATION OF NEW JERSEY

A division of New Jersey Beekeepers Association

President	Frank Mortimer	201-417-7309	3rd V. Pres.	Karl Schoenknecht	201-891-0947
V. President	Rich Schluger	201-693-6949	Secretary	Jaimie Winters	551-486-7479
2nd V. Pres.	John Gaut – **Mentor Coordinator**	201-961-2330	Treasurer	Bob Jenkins	201-218-6537

Meeting on: **Friday, December 16th at 7:30 PM**, Location: **Ramapo College of NJ, 505 Ramapo Valley Rd., Mahwah, NJ 07430**

Bee Enthusiasts & Bee Curious always welcome! *Weather permitting.*

Please join us on **Friday, December 16th** (*in the Pavilion Building*) when we present our annual Holiday Party. Come, eat, drink and enjoy the company of the nicest people on earth; Beekeepers!

****Please take note that we will be meeting in a new space at Ramapo College. Not in our usual spot.**

Our annual Holiday Party will be in the Pavilion, the same place where we held our Honey Cup in September. We will NOT be in in our normal location, so please go directly to the Pavilion, across the street from where we usually meet, and closer to the parking lots and sand volleyball courts.)"

Yearly Dues are payable now!

Your $25 yearly dues goes to fund all of our activities, our post meeting refreshments, club supplies and all other necessities required to bring the best possible programs, headline speakers, classes, mentoring and to introduce new beekeepers to the art and craft of the hobby we all love so much. See Bob Jenkins to make your timely dues payment,

and from all the officers,

"Thank you for your continued support."

Message from the President:

Happy Holidays Northeast NJ Beekeepers!

As days get shorter and temperatures drop, our bees are hunkering down for winter. The queens have slowed/taken a brief hiatus from laying eggs. Some say the queen knows when to stop laying because of the decreased daylight, others say it's because of the smell of egg nog is in the air.

Since there is not much we as Beekeepers can do this time of year, except for wait, it is always a test of patience. Months ago, you should have confirmed your hives had plenty of food for the winter. They need about 80 pounds of honey to make it until the first blooms of spring sprout in early April. Please remember that is way too cold to have syrup on your hives, and no feeders should still be on your hives. Until spring, you can only feed your bees solid sugar, either fondant, candy, or plain granulated sugar. (and never feed pollen patties this time of year.)

On a warmer day this month, I would recommend popping open your hive to see where the bees are. The closer they are to the top of the hive, the less food they have left. So, if you pop your cover and the bees are all over the top of the frames and inner cover, then you must feed your bees ASAP or they will starve. It is also very important to stop yourself from removing any frames and disturbing the cluster. At this time of year, you should only remove the outer and inner covers, that's it. If you don't see your bees, chances are they are down low in the hive because they have plenty of food, and if you start digging around in the hive, you could chill your bees.

It is also important to make sure there is a way for condensation to escape from your hives. Remember, moisture kills bees, not cold temperatures. As I always like to say, honeybees are native to Sweden, and if bees can survive Swedish Arctic winters, they certainly can survive ours. So, make sure you have a small gap between your covers.

(Small enough so bees cannot use it as an entrance, but large enough to allow for air flow.)

Besides confirming your hives are heavy, as a beekeeper, there are really only two things for us to be doing. The first is taking advantage of the sales all the suppliers are having right now. Do you need to replace/repair any equipment? Would you like to expand the number of hives you have? Do you want to ask Santa for a Maxant extractor? If you need/want to buy bee stuff, now is the time to do it.

Lastly, this time of year is the time to celebrate. You have worked hard all year to make sure your bees are healthy and have enough supplies for winter. You worked hard, and you deserve to feel good about all that you accomplished. In honor of this time of year, we will be having our holiday party on Friday. It's a great time to celebrate being a beekeeper and feeling proud of all that you've learned and have done. I hope to see everyone on Friday, as I will enjoy seeing you, and I will also be celebrating our "collective hive," the Northeast NJ Beekeepers.

Happy Holidays!

Frank Mortimer
President, Northeast NJ Beekeepers

Club Elections

The Nominating Committee will present their nominations for officers to the membership at the December meeting. The decision to reelect our current officers, together with any nominations made from the floor, will be voted upon.

Leigh Knows Bees

Our own Leigh Lydecker is the cover story for the winter issue of "Autumn Years" a magazine for Bergen County Seniors. We will have copies of the magazine at Friday's holiday party.

A Few Updates Related to the Science of Beekeeping

John A. Gaut

Another Myth Busted: Fermentation of Beebread

There are many myths in beekeeping. One recently "busted" myth is that pollen must be fermented as beebread before the bees can digest the nutrients from the pollen grains. Recent research by Dr. Kirk Anderson (and others) has shown there is really no fermentation in beebread. Dr Anderson works at the Carl Hayden Bee Research Center in Tucson, Arizona.

The concept that bees need to ferment pollen conflicts with the observation that bees readily consume fresh pollen. Many beekeepers observe that the bees actually prefer fresh pollen compared to stored pollen! In the spring, pollen being brought into the hive is consumed almost immediately when there is a lot of hungry brood to feed.

While bees do preserve pollen, there is little or no fermentation. Bees will preserve pollen they are storing for longer periods, over the winter for example. Pollen is living plant material and the nutritional value does deteriorate if not preserved. Bees preserve the pollen by packing it in a cell and then adding nectar and honey along with other substances (saliva and enzymes). There is no "pre-digestion" or fermentation of the pollen in the cell though. As we know, honey will not spoil; so the bees coat honey on top of the pollen packed cell to help preserve it. The honey is a natural preservative since it is low moisture and acidic.

I attended one of Dr. Anderson's presentations about a year ago. I still remember the picture of pollen grains in the cell and NO bacteria! What a surprise!! His conclusions made sense to me. Some of the other beekeepers did not believe (or maybe comprehend) his findings. This myth may take awhile to work its way out of the beekeeping literature and teachings.

Randy Oliver has written several articles related to Dr. Anderson's research and fi

The P. apium Project

I am participating in a project also related to Dr. Anderson's work and others at the Tucson Lab. I volunteered to test a new probiotic in 10 of my hives. Actually 5 get the probiotic and 5 get a placebo. I do not know which is the probiotic and which is the placebo. The probiotic is Parasaccharibacter apium. This research is being conducted by Vanessa Corby-Harris.

From the Project information page: "Honey bees host a variety of bacteria in their guts and in their hives. Over the last few years, we have worked very closely on one of these

bacteria, Parasaccharibacter apium. The results of our laboratory and field experiments suggest that P. apium might help bees. In small-scale field trials in Arizona in 2013 and 2014, we found that hives supplemented with P. apium were more able to resist infection by a parasite (Nosema). We also found some support for the hypothesis that bees supplemented with P. apium were healthier after going through winter than un-supplemented hives. We want to know whether the probiotic benefit P. apium offers extends to bee hives kept in real-life situations with real beekeepers applying the treatment."

I applied the probiotic and placebo to 10 of my hives three times in the fall. I rated each hive before the treatment and will rate each hive in the spring. My results along with others across the country will enable the researchers to see if there is any significant difference. I do monitor my hives for Nosema levels and provided this information too. While my Nosema levels are a better this year, they are still a concern. (See below.) I plan to meet and talk with Vanessa Corby-Harris more during the American Beekeeping Conference next month.

Some observations related to My Nosema Levels

I collected Nosema samples in mid-October when I was checking for mites. I compared them to the levels I was seeing in mid-November last year. I used the "Prevalence" test (look at 10 individual bees for each hive). Prevalence is a better indicator than the "Average" method (combine 25 bees and count spores) based on my comparison of the two methods last year. I sampled most but not all my colonies and none of my nucs this year.

The results:

Nosema Prevalence	2015	2016	2015	2016
None	4	18	22%	69%
20% or less	8	8	44%	31%
More than 20%	6	0	33%	0%
Total Colonies	18	26	100%	100%

This year looks much better than last year. The 18 colonies from 2015 are included in the 26 colonies for 2016. Most of the colonies this year (69%) do not have Nosema; last year only 22% of the colonies were Nosema free. I am not seeing high levels of Nosema in the colonies that do have Nosema this year. So about two-thirds of the colonies did not have Nosema and a third have 20% or less bees with Nosema.

I really can't say queens/genetics are a factor. While there are new queens, most came from the same lines both years ("Schuler" and “Harbo”).

Another observation is that even the colonies with high Nosema last year all survived the winter. In the spring, Nosema levels increased even higher in most of the colonies, but they survived. Some were great honey producers; others just OK. So while Nosema is a concern, I'm amazed it does not have as big of an impact as I would expect after seeing bees loaded with Nosema spores under the microscope.

These samples were from bees in the brood nest, younger bees. The samples last fall were from under the inner cover, older bees. Last year I compared Nosema levels between bees from the brood nest and under the inner cover. I did not see much difference even though I expected (hoping) to find low levels in the brood nest (younger bees). That observation indicates that it may take several generations to "grow out" of Nosema. I'd like to repeat that test but not until next year now.....

While I do not have any conclusions, I am glad to see Nosema levels lower this year.

SuperDFM – Direct Feed Microbio

I was given some SuperDFM to test. DFM is an acronym for Direct Feed Microbial. The product contains several kinds of bacteria thought to be beneficial to the bees and the colony. The bacteria are normally occurring in the colony and the hive but may be diminished due to antibiotic treatments or fumigants for mite treatments. DFM is marketed as a way to restore the natural bacterial flora in the colony and cure Nosema and chalkbrood.

I tested the product on several nucs last fall that all had high Nosema levels. I did not see any evidence of a decline in the Nosema levels but the colonies did make it through the winter. (They probably would have without the DFM. I had other untreated colonies with high Nosema that survived the winter too.) I did not see any significant difference in the colonies, treated or untreated related to spring build up. I did not observe any detrimental effects either.

I talked to a few beekeepers at EAS who thought the product was great, but did not have any data to substantiate their conclusions. So I thought I would try another test on full-sized colonies. I treated 6 colonies in an apiary of 12 colonies, randomly picking the

6 to test. I'll see in the spring if there is any difference. (Honestly I'm skeptical. Randy Oliver told me DFM has the "wrong bacteria.")

PSU Landscapes for Honey Bees

I signed up to provide data for the Center for Pollinator Research at Penn State (my alma mater!). The projects purpose is to identify "landscape features that promote honey bee health through a beekeeper-scientist partnership."

> "Although beekeepers have long known that the location of an apiary is important for colony productivity and survival, little research has gone into understanding which landscape features relate to good apiary sites. Working in partnership with interested beekeepers from Pennsylvania and surrounding states, we will evaluate colony health and landscape quality to gain insights into what makes a good, and bad, apiary site. Our results are intended to help inform land managers, growers, and beekeepers about optimum resources for bees." PSU website.

I have had to submit data for 5 hives several times over the summer and will start again in the spring. The data includes the hive weights, hive configuration (number of deeps, mediums, etc.) any honey removed, any feeding (syrup or protein), queen status and mite level. This is a lot of data but I normally collect and record this data for all of my colonies anyway. I just need to report it on the project website periodically.

While beekeepers are always talking about good locations, maybe this project will put a little data behind what bees really like at least in the mid-Atlantic region.

Viruses

Randy Oliver requested some samples of bees for a study he is doing related to viruses. He wanted samples from "regularly" treated hives, for comparison with virus samples from survivor (untreated) hives.

> "Recent studies by Dr. Stephen Martin and associates have found that there is apparently a benign form of DWV (Deformed Wing Virus) that can out compete the virulent form, thus allowing colonies to survive despite varroa infestation.
> If this is true, it raises the possibility that we may be able to minimize the effect of varroa by inoculating our colonies with the benign form of DWV.
> We obtained funding from Project Apis m. to survey bee colonies across the U.S. to determine the distribution of the strains of DWV. We're especially interested in adult bee samples from feral and survivor stock that have survived for some time without treatment. We also need reference samples from "normal" managed apiaries." From the Randy Oliver's webpage.
>
> The samples were sent off to the UK for analysis. Maybe I will learn more at the American Beekeeping Conference.

Basic Beekeeping Courses

John A. Gaut

Every beekeeper can benefit from a beekeeping course. Both new and beekeepers with 1 or 2 years experience can benefit from a Basic Course.

Landi Simone and the Essex Branch are once again offering a three day Short Course - Saturdays, February 18 & 25, 2017, 9:00 a.m. to 4:00 p.m. Garibaldi Hall, Essex County Environmental Center, 621B Eagle Rock Avenue, Roseland, NJ 07068 with a Field Day in April, 2017 TBA at various area apiaries. This class covers everything you need to know from purchasing equipment to harvesting honey. Basics of disease and mite management will be covered. Scholarships for this course are available for full-time students ages 12-22. Fee: $155 per person includes NJBA membership in a chapter of your choice, class materials, continental breakfast, and afternoon snack. For more information contact registrar Pat Gamsby at BJORNLASS@AOL.COM or 973 396-8996. E-mail is the best means of reaching Pat. Click here to register.

Register ASAP! The course is very popular and will fill quickly. All the Beekeeping courses can be found on the NJBA Education Page
http://njbeekeepers.org/Education.htm

Need Bee Stuff?

Grant Stiles will be attending our holiday party of Friday. If you need any Mann Lake Bee Supplies, any bottles, or fondant, please call Grant before Friday and he will deliver your order to our meeting. Grant's number is: (732) 661-0700.

BroodMinder for Hive Monitoring

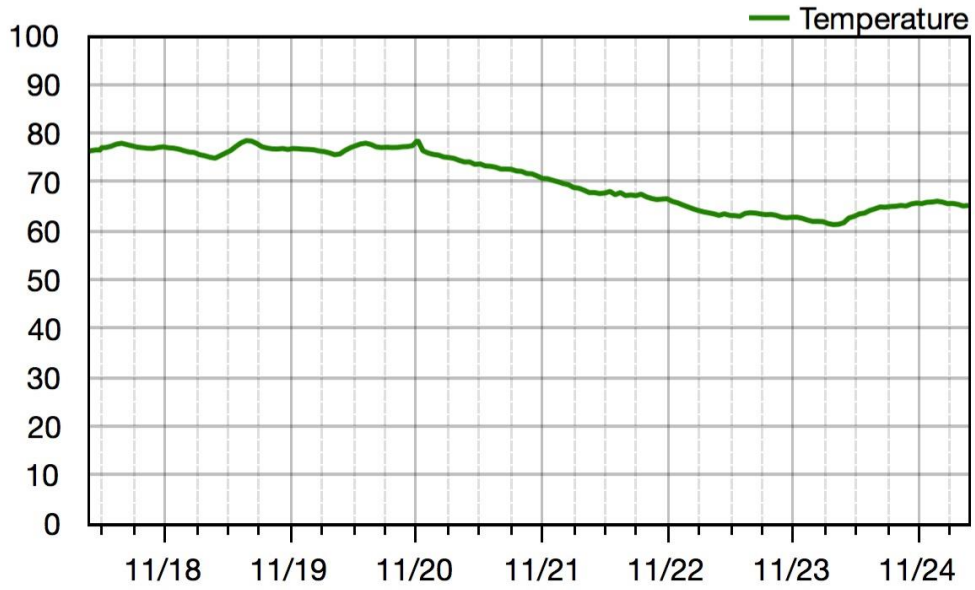
John A. Gaut

I purchased a BroodMinder set at EAS this past July and installed it in August. The set consists of a hive scale with built-in temperature and humidity sensors (to monitor ambient conditions), a hive sensor with both temperature and humidity (to monitor the brood nest) and a hive sensor to monitor just the temperature (at the top of the hive). I found the three sensors easy to install and set up. The applications worked well with my Samsung (Droid OS); at least until I ran over my phone with a 15 ton tractor! The application also works well on my new iPhone. I found the weight to be accurate and precise (after putting in the correct scale factor for my setup). Downloading the data to the phone only takes a few seconds for each of the 3 data collectors. The data can be uploaded to the internet and shared. (This feature needs a little work yet.) Battery life has been good so far.

I use the one BroodMinder on a hive as a "bellwether" to indicate trends for the other hives in the apiary. The BroodMinder has been a very good investment; I can quickly assess the hive including weight and now have a convenient way to look at historical data.

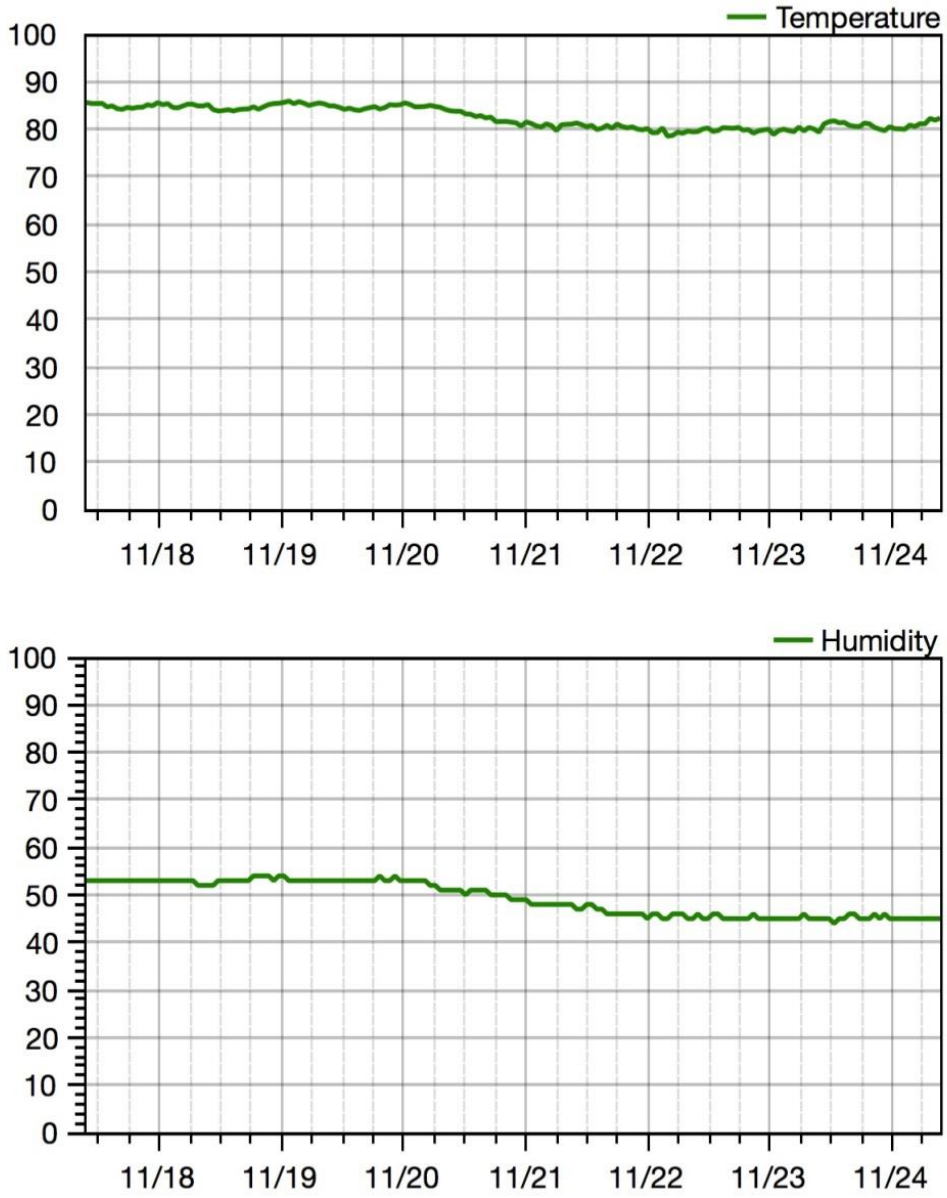
You can get more information about the BroodMinder products, their Citizen Science objectives and purchase the monitors at http://broodminder.com

Below are some recent screenshots from my phone.



Temperature at the top of the Hive

The hive has been getting cooler as the bees cluster more in the lower part of the hive. The insulation on the hive does prevent significant swings in temperature.



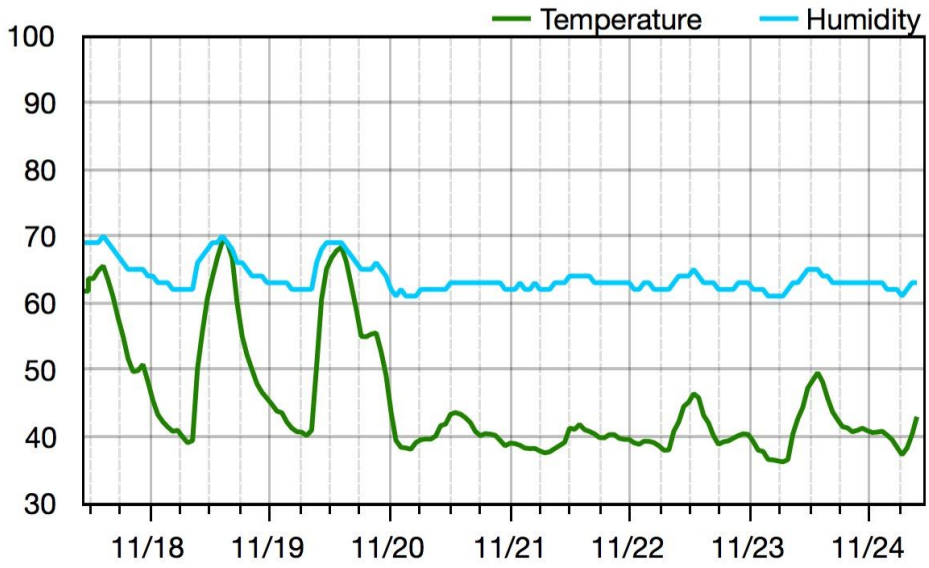
Temperature (top) and Humidity (bottom) at the Brood Nest

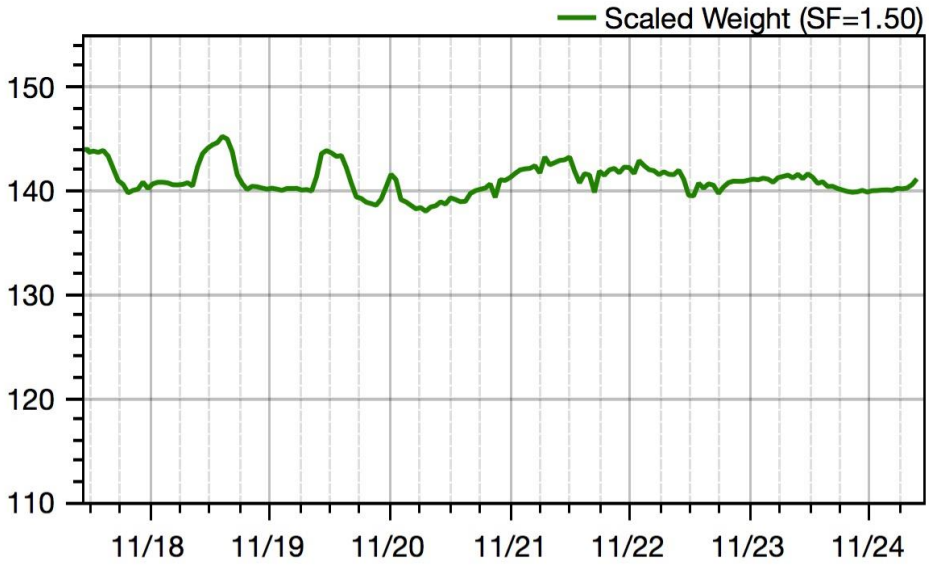
The temperature was a steady 92 F until October.

The broodnest has been decreasing in size and getting a little cooler.

Notice the consistency of both the temperature and the relative humidity.

The bees are amazing at keeping both the temperature and humidity constant for the brood.





Ambient Conditions and Scale under the hive.

The top graph shows the outside (ambient) temperature and humidity.

Compare these daily swings in temperature with the internal temperatures.

The bottom graph is the weight. On warmer days they are bringing in resources; pollen and maybe some honey robbed from collapsing hives in the area. On the cooler days the weight does not change much. During a nectar flow, the daily fluctuations in weight are remarkable!

Find us on Facebook

1,615 Strong!!!

We quickly blew through the 1,600 member milestone and are, as of this writing 1,615 members strong, and growing on our Facebook page! Be sure check it out. See the great pics and stories posted by the Facebook fans we have at our page.

Remember: http://www.nnjbees.org ***is your website! Check that site for everything Northeast New Jersey Beekeeping!***

❖ Volunteers ❖	
Celia Miller	Refreshments – Cakes, cookies, brownies, tea, etc.
Jennifer Phillips	Refreshments – Cakes, cookies and other treats
Billy Neumann	Club photographer
Hugh Knowlton	Workshop/Event coordinator and presenter
Mike Miller	Club apparel
Emma Stein	Resident artist
Bob Slanzi	Meadmaster

Next Month

The Northeast NJ Beekeepers is proud to present our friend, Commercial Beekeeper, **Grant Stiles**.