



[nnjbees.org](http://nnjbees.org)

# March 2015



## NORTHEAST NEW JERSEY BEEKEEPERS ASSOCIATION OF NEW JERSEY

A division of New Jersey Beekeepers Association

President	Frank Mortimer	201-417-7309	3 <sup>rd</sup> V. Pres.	Karl Schoenknecht	201-891-0947
V. President	Rich Schluger	201-693-6949	Secretary	Vacant	
2 <sup>nd</sup> V. Pres.	John Gaut	201-961-2330	Treasurer	Bob Jenkins	201-218-6537

Meeting on: **Friday, March 20th at 7:30 PM**, Location: **Ramapo College of NJ, 505 Ramapo Valley Rd., Mahwah, NJ 07430**



*Bee Enthusiasts & Bee Curious always welcome!*



*Weather permitting.*



This month we welcome Bill Ferguson of Ferguson Apiaries from Ontario Canada as our special guest and keynote speaker. Bill raises Buckfast queens and will talk about his work in this field. This is a unique opportunity to add to your knowledge about a different sub-species you may not know much about. Bee there for another information packed meeting.

Also, read the analysis, by our Vice President John Gaut, of the loss of one of his hives over the winter. It's quite interesting and informative.

**\*\*Bee sure to check out our formalized Mentoring program. You can be a Mentor or a Mentee. Another valuable service provided by the best beekeeping branch in the state of New Jersey!**

### **Yearly Dues are payable now!**



Your \$20 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, 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."



**Starting in April 2015 those members from last year who have not paid their 2015 dues will be removed from the clubs mailing list and no longer receive our monthly newsletter nor any member email blasts. Stay in the know, help the club and renew your membership by March.**



## Ordering Nuc Hives from Northeast New Jersey Beekeepers: Important Note

Due to the fact that we have a guest speaker for this Friday's meeting and need to start on time we are asking all members who need to see Bob Jenkins, our treasurer, about ordering a nuc, buying books, or paying your annual dues to arrive at least **60 minutes early** so as not to impact the speaking time of our guest. Bob needs to leave early so you can only conduct your business before the meeting. From the reports of dead hives I've been hearing about there will probably be many of you needing to place a nuc order so it makes sense to get there by 6:30 to get your orders in. Business with the treasurer will stop promptly at 7:30 when the meeting commences. ***Please be advised that only members who have paid their 2015 dues can order nucs.*** The nuc deposit is \$40 per nuc and the balance of \$105 per nuc is due at pickup, which as of now is projected to be April 20, 2015.

### **Message from the President:**

Hello Northeast NJ Beekeepers!

Finally, spring weather is starting to show itself and hopefully, your bees are flying. This winter was a tough one, and many members are reporting a high die-off of their hives. I don't think it's a surprise that our area is experiencing so many colony deaths, especially when you consider that last season we saw an explosion in the mite population, combined with the record low temperatures this past winter. If you lost more hives than you would have liked, then this year, I would encourage you to be more aggressive with your mite treatments. The single most important thing we can do to help our bees survive is treating for mites. Fewer mites = stronger hives, and the stronger the hive, the higher the survival rate. Last month, Grant Stiles said that he believes in treating his hives for mites starting in March. This makes a lot of sense to me, as you are knocking down the mite population at the same time as your colonies are rapidly increasing in size.

Last time I checked, 4 out of 5 of my hives made it through the winter. They were light on food, so last month, I bought a 50 pound box of fondant to feed my bees. I don't think you can really call yourself a beekeeper until you've personally wrestled 50 pounds of fondant into your hives. The whole experience, from cutting it into equal slabs, to actually getting it into the hives, is as graceful as a water buffalo trying to free itself from quicksand. And, I think I have personally confirmed that a 50 pound box of fondant is the stickiest thing on the planet.

When I finally finished getting all the fondant into my hives, I realized that bunches of my bees had used me for target practice during their cleansing flights. So even though my beekeeping suit now looks like a Dalmatian costume, all in all, it was a good beekeeper kinda day!

This month we have a great meeting planned for you. Bill Ferguson from Ontario Canada will be speaking on Raising Buckfast bees & the effects of neonicotinoids on the honeybee. I had the pleasure of meeting Bill last summer, and he is a wealth of information, and a really good guy.

Also, the club still has nucs available, and remember, once they are gone, they are G-O-N-E. So, if you want one, please get your deposit in ASAP.

I look forward to seeing you this Friday, at our meeting. I'll be the guy with fondant still stuck in his hair.

**Sincerely,**

**Frank Mortimer**  
**President, Northeast NJ Beekeepers**



# Guest Speaker This Month!

## **Raising Buckfast bees & the effects of neonicotinoids on the honeybee**

Please join the Northeast NJ Beekeepers Association on March 20th as Bill Ferguson of Ferguson Apiaries will be giving a talk on Raising Buckfast bees & the effects of neonicotinoids on the honeybee.

Bill Ferguson has been keeping bees for over 50 years in Hensall, Canada, the heart of Ontario's rich agricultural land and the White Bean Capital of Canada. At its peak, Ferguson Apiaries had over 1200 hives, and they presently run about 225 hives for nuc and queen sales.

Ferguson Apiaries exclusively breeds Buckfast bees, originally developed by Brother Adam at the Buckfast Abbey in England. All of the Ferguson Apiaries stock has been produced from the Buckfast line acquired from breeders in Ontario, Denmark, and England. The Ferguson stock has been through the very cold Ontario winters, and has been hygienic tested over the past 20 years. Ferguson Apiaries continually works hard to develop and cultivate the best lines to build gentle, productive, and mite resistant Honeybee stock.

Living in the heart of big agriculture with his wife of 47 years and their three children, Bill has experienced firsthand the effects of neonicotinoids on his hives and the health of his honeybees. Bill is also a member of the Ontario Beekeepers Association, who are pushing for Ontario to become the first government in North America to impose restrictions on the neonicotinoid pesticides.

The Northeast NJ Beekeepers Association meetings are always the third Friday of every month, beginning at 7:30 pm. They meet at Ramapo College, 505 Ramapo Valley Road Mahwah, NJ, in the Anisfield School of Business, Room 135S. For more information, please visit, [www.nnjbees.org](http://www.nnjbees.org) or send an email to [frankmort@gmail.com](mailto:frankmort@gmail.com)

The March 20th meeting is open to all New Jersey Beekeepers.



## **History of Buckfast Stock**



**Buckfast Bees were originated in England by Brother Adam at Buckfast Abbey. In 1919 Brother Adam took over the breeding of bees. The key words in buckfast breeding is drone control.**

# COLONY LOSS ANALYSIS

MARCH 2015

## Introduction

This analysis documents the loss of a large and productive colony. The loss was unexpected, disappointing and frustrating.

The primary purpose of this analysis is to determine the cause and how to prevent a recurrence. Specifically: What are the lessons learned?

## Background

The colony was established in the spring of 2012. 55 pounds of honey was extracted in July of 2013. Since the colony was overly defensive, it was re-queened in the fall of 2013. The new queen was established and was laying a good brood pattern in September 2013. The colony filled 2 honey supers with the fall flow which remained on the hive for the winter.

In late April 2014, there were over 5 frames of brood and also relatively high mite counts; 5 mites per 100 bees. The hive was treated with 2 strips of MAQS. A mite check 10 days after initial treatment was 3 mites per 100 bees. The queen was found and marked in May. 125 pounds of honey was extracted in July. On July 11<sup>th</sup>, the empty honey supers were removed (3 deep hive bodies remained), the mite count was 8.3/100 and the colony was treated with ApiVar (4 strips in the area of the brood nest). The ApiVar was removed on August 25 and the mite count was 0.3 / 100, a significant reduction. The colony was fed starting August 31. On September 28, the mite count was 3/100 so the colony was treated with one strip (half treatment) of MAQS. When removing the strip on October 8<sup>th</sup>, an unmarked queen was found (a few eggs, larvae and capped brood were also observed). Since there was limited brood, no mite sample was taken. In November, the colony had a relatively large population, more than 20 frames of bees. On December 1, the hive weighed 176 pounds (3 deep brood boxes, over 100 pounds of capped honey). Over 100 mites were observed on the IPM board. 16 days later there were again over 100 mites on the IPM board. On December 27, (10 days later) there were over 125 mites. On January 15, 2015 the IPM board was nearly clean, except for evidence of a mouse in the hive (a mouse dropping and chewed wax pieces). On February 22, 2015, there was no sign of life in the colony so the 3 deeps were disassembled. A small cluster (6 inch diameter) of dead bees was found in the upper deep hive body. The top deep had about 40 pounds of honey, the middle deep had about 40 pounds of honey and the bottom deep had about 20 pounds of honey. A mouse nest was found in the bottom deep. The mouse had chewed about 20 square inches out of each of 3 frames on one side and brought in some "litter" for nesting.

The colony had a relatively large population in September and only a small dead cluster in February.

There are 2 other colonies at this location. One is a 3 deep Nuc with low mite counts on the IPM board. On March 4<sup>th</sup>, the Nuc had a cluster of bees in the bottom deep hive body covering about 3 frames. The other hive is a 3 deep with a solid bottom board (mites are not monitored on an IPM board). This colony also had high mite counts in 2014 and was treated for mites in a similar manner as the colony in this analysis. This colony was found dead on March 4<sup>th</sup> with a small cluster (including the queen) in the top hive body next to honey.

Bees with Deformed Wing virus were occasionally observed on the ground, likely from one or both full size colonies during the summer. There was no evidence that this colony swarmed. There were no swarm cells and the population was relatively high (at least 20 frames of bees) up until the last inspection on October 8<sup>th</sup>.

## Possible Causes of Colony Loss

Appendix 1 lists the common causes of colony loss. These losses are broken into two groups below for this analysis; the first group is common causes that were judged NOT to be a factor and the second group includes common causes possibly contributing to the loss.

### Causes of Colony Losses that were NOT a factor

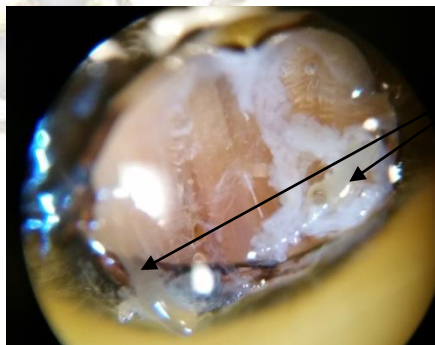
**Starvation:** The colony had plenty of capped honey.

**Chilled Brood:** No brood was found. The last time brood was observed was on October 8, 2014.

**Weak in the Fall:** The colony had a relatively large population in the fall. There was no evidence of a fall swarm (no swarm cells).

**Pesticides:** No evidence of pesticide poisoning.

**Parasites other than Varroa (Tracheal Mite, Bee Louse):** 10 bees were dissected and inspected for Tracheal Mites; the tracheal tubes were transparent and not discolored or blotched.



Tracheal Tubes

**Nosema:** While Nosema is possible, there was no evidence of stress related to Nosema. There was no spotting in or outside the hive. The dissected bee's intestines looked normal (this is not a good indicator for Nosema though). A sample was sent to the USDA Bee Disease Diagnosis Service (no results yet).

**Predators (Bears and Skunks):** While a bear did knock adjacent hives over twice, this colony was not touched. There was no evidence of skunk activity. The mouse did some damage but was not a factor to the colony.

**Bacterial Diseases (American Foul Brood and European Foul Brood):** The colony never had either type of foul brood and died in a broodless state. There were no remains of brood (e.g. scale) in the cells.

**Fungal Diseases (Caulk Brood and Stone Brood):** The colony never had caulk or stone brood.

**Robbing:** This was a strong colony with an entrance reducer and plenty of honey. This colony was not robbed. (They could have been robbing others though.)

### Possible Causes of Colony Loss

**Queen Issues:** The colony did appear to have a new queen in late fall. The colony's queen was marked on May 6<sup>th</sup>. An unmarked queen was found on October 8<sup>th</sup>, along with some eggs, larvae and capped brood. The queen was not found in the small cluster of dead bees. (It is also possible this was a 2 Queen colony with Mother and Daughter Queens; not too unusual in a large colony.)

**Varroa Mites:** Keeping the Varroa mite population low was a challenge with this colony. It was a well established colony. The mites were well established too! In the spring of 2014, the queen was laying in a relatively large brood nest and the population increased (along with the mite population). The April 26<sup>th</sup> full treatment of with MAQS knocked the mites down to a little less than half; not a 90% reduction though. (The hive had 3 deeps and 2 supers at this time. The formic acid vapors had a large volume to fill.) The July 11<sup>th</sup> to August 25<sup>th</sup> treatment (46 days) with ApiVar did reduce the mites significantly to 1 mite in the 300 bee sample; 0.3mites/100 bees. The IPM board had only a few (3 to 5) when checked bi-weekly between September and November. Then in December the mite drop increase significantly to more than 100 every two weeks.

**Viruses (Deformed Wing, Sac Brood, Chronic Paralysis, IAP):** Bees with Deformed Wing Virus were occasionally observed external to the hive during the summer. It is not clear which hive the bees with DWV were from. Sac Brood was not an issue with the colony. Behaviors associated with Chronic Paralysis and IAP were not observed.

**Pests (Wax Moth, Small Hive Beetle, Mice, Ants):** The only pest was a mouse that moved into the back corner of the bottom deep. The frames in this area had honey at the top and open cells at the bottom. Damage was limited to a small part of 3 frames. The mouse was not there when the hive was disassembled. There was a handful of "litter" used for nesting material. A mouse guard was not in place. No other pests were observed.

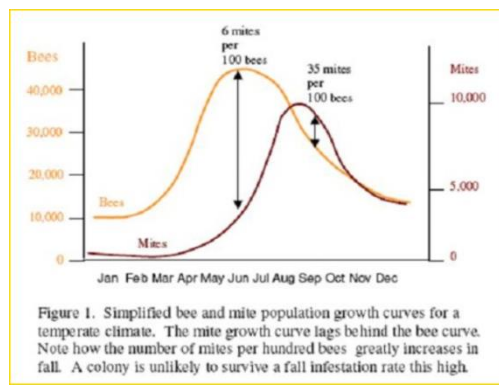
## Analysis

The colony died sometime between late December and early January based on the IPM board observations. The possible reasons for the loss of this colony include the queen, Varroa mites, viruses and a mouse.

While the mouse could have stressed the colony, the presence of the mouse is not a primary cause of the colony loss.

The queen was relatively new. A queen was marked on May 6, 2014. An unmarked queen was found on October 8. No unusual observations were made related to the brood between May and October, except the brood was "a little spotty, but OK" on July 11. On August 26 there were 5 frames of brood, all with nice patterns. These bees would have been the beginning of the winter population. While limited eggs, larvae and capped brood was observed in October, this is not unusual for fall. The decline of the population was much quicker than would be expected due to lack of the queen's performance.

Varroa mites and the viruses they transmit could be a factor. The mites and viruses could have caused the quick decline in the colony population in the late fall and early winter. While mites do weaken the bees, viruses cause their death. Bees with viruses leave the colony in an altruistic manner, or are carried out by other bees. Bees with viruses can not generate the heat needed to keep the cluster warm, and more bees die due to the cold. The colony quickly declines. The combination of a high mite population and viruses is the **Parasitic Mite Syndrome**.



The figure to the left shows how a 6% mite count in the summer can become a 35% mite count in the Fall. (Borrowed with pride from Randy Oliver, who borrowed it from someone else!)

## Conclusion

The primary cause of the colony loss was most likely due to the relatively high mite population, especially in the fall. The mites weakened the bees and activated viruses that resulted in the colonies rapid decline and death.

## Steps Needed to Prevent a Recurrence

Follow the “Winter Preparation Checklist” (Appendix 2) to verify all steps are completed including installing a mouse guard.

Sample monthly for mite counts beginning in April through October. **When there is minimal brood in the fall, sample from the brood nest area anyway!** While the bees will not be “nurse” bees, they are likely to be young “winter” bees (not older foragers). If there are mites, they will be on these bees.

If a half treatment of MAQS is used, follow the treatment 2 weeks later with another half treatment.

## Lesson Learned

**The biggest lesson is that mites must be monitored continuously, at least monthly including the fall when there is little or no brood. The bee population normally declines as the winter approaches; the mite population does not! As a result the percentage of mites increases dramatically in the late fall. The high mite population causes a virus epidemic in the colony resulting in a rapid decline in the winter.**



This is a picture from the adjacent hive (not the hive in this analysis).

The cluster and location next to honey was the same as the hive in this analysis. This hive died from Parasitic Mite Syndrome too. Note the green marked queen in the dead cluster.



## APPENDIX 1

### COMMON CAUSES OF COLONY LOSS

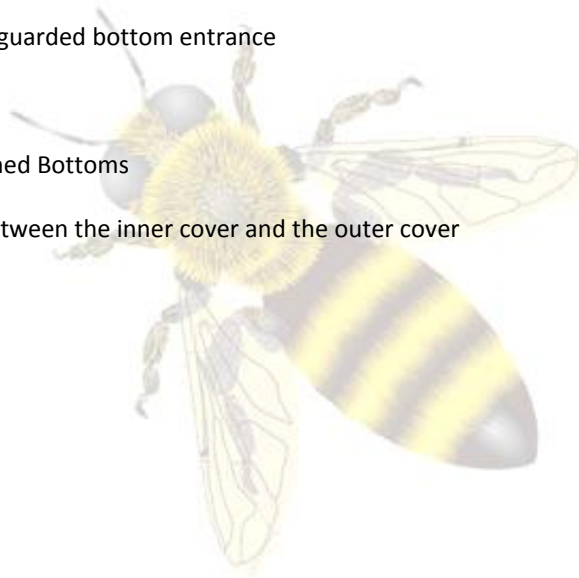
- Starvation (limited honey and/or pollen)
- Queen Issues
- Varroa Mites
- Parasites other than Varroa (Tracheal Mite, Bee Louse)
- Viruses (Deformed Wing, Sac Brood, Chronic Paralysis, IAP)
- Chilled Brood
- Weak in the Fall
- Nosema
- Pesticides
- Predators (Bears)
- Pests (Wax Moth, Small Hive Beetle, Mice, Ants)
- Bacterial Diseases (American Foul Brood and European Foul Brood)
- Fungal Diseases (Caulk Brood and Stone Brood)
- Robbing



# BEEKEEPERS

WINTER PREPARATION CHECKLIST

- Low Mite levels
- Adequate Honey Stores
- Good pollen reserves
- Large population of young healthy bees
- Young vigorous and proven queen
- Low Nosema levels
- Upper entrance and reduced/guarded bottom entrance
- Minimize Air Infiltration
- Close Bottom Board on Screened Bottoms
- Insulate the top of the hive between the inner cover and the outer cover
- Insulate the hive sides



BEEKEEPERS

## Mentoring Program



The club has always supported all the beekeepers in the Northern New Jersey Area. A more formal Mentoring program was launched this year to enhance the support all the new beekeepers in the club. Becoming a Beekeeper can be very challenging. The club has many great and experienced beekeepers that can help the new beekeepers be successful.

What are the requirements to have someone Mentor you? You should:

- Be a new beekeeper with a desire and dedication to learn about honey bees
- Read a beginning Beekeeping Book
- Ideally taken a beginning beekeeping course

A Mentor is someone who:

- Successfully managed one or more colonies for one year or more.
- Willing to give back some of the knowledge and experience to a new beekeeper
- Will be supported by the whole club and other highly experienced experts in the state
- Mentors 1 or 2 new beekeepers in their area
- Gains more experience working with more hives and helping to solve questions and issues

The Mentoring Model is:

- Ensure the Mentee has an understanding of what needs to be done and what to expect during the beekeeping year
- The Mentor demonstrates to the Mentee
- The Mentor observes the Mentee and offers suggestions.
- Both the Mentee and Mentor advance their skills together

**After the main presentation at our March meeting, the Mentees and Mentors will meet for introductions and to begin making plans for the new bees.**



**1,340 Strong!!!**

We quickly blew through the 1000 member milestone and are, as of this writing 1,321 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!



**Mary Ann's Gourmet Market**  
 1011 MacArthur Blvd.  
 Mahwah, NJ 07430  
 201-962-8611  
[www.maryannsgourmetmarket.com](http://www.maryannsgourmetmarket.com)

**Next Month**  
 Noah Wilson-Rich, Founder & Chief Scientific Officer at Best Bees Company. The Noah Wilson-Rich speeches focus on the possibilities that exist to save cities and species with a particular focus on beekeeping. Rich graduated from the Northeastern University in 2005 with a degree in Biology, and later completed his PhD in Biology at the Tufts University in 2011. See you all then!

**All Beekeepers Receive 10% Off!**

❖ Volunteers ❖	
Judy and Terry Regan	Refreshments – Cakes, cookies, brownies, tea, etc
Tom Miller	Refreshments – Cakes, cookies, brownies, tea, etc
Rachel Avenia-Pro	Web site creation and training: <a href="http://www.nnjbees.org">www.nnjbees.org</a>
Jennifer Phillips	Refreshments – Cakes, cookies and other treats.
John Gaut	NJBA Constitution Committee, Mentor Coordinator.
Hugh Knowlton	Workshop/Event coordinator and presenter.