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New Hampshire Beekeepers'  
Association  
[www.nhbeekeepers.org](http://www.nhbeekeepers.org)

The NH Beekeeper's  
Newsletter is  
looking for club news, articles  
and stories.

Please send submissions to:  
Wendy Booth  
[info@hivehealthy.com](mailto:info@hivehealthy.com)  
or 37 Swan Dr.  
Nottingham, NH 03290

*We are still waiting to  
hear from you...*

## NEWSLETTER

## Spring 2008

### NHBA Spring Meeting Saturday March 15

Lake Shore Farm

275 Jenness Pond Rd, Northwood NH

8:30 AM Registration Meeting starts 9:00 AM – 3:00 PM

\$20 per member—includes lunch  
or \$5 with no lunch-meeting only

Our speaker this year is Mark Robar from The Trail's End Farm in RI. He will be discussing his current Northeast SARE grant research project on over-wintering and propagating honey bees in the Northeast. Sustainable Agriculture Research & Education (SARE) provides grants to improve profitability, stewardship and quality of life. Mark will also present his grant study project with RI division of Agriculture on Specialty Crop Pollination. NE SARE will also give a presentation on opportunities available to beekeepers to apply for grant research money.

This year we are trying something new in place of the normal raffle table. It seems that we get so much stuff that the raffle can last an hour or more. This year we would love more donations for our Tea Cup Raffle. Tickets will be sold and shoppers place their tickets in the cup for the items they hope to win in the raffle. Tickets are \$1 each or 6 for \$5. No live animals (unless they are bees) and no used or broken items, please. At the end of the meeting the winning tickets will be drawn for each of the items. The Raffle helps to raise the money used to bring you speakers twice a year and hold the summer workshop.

There will be a business meeting, officer elections and award for Beekeeper of the Year. NHBA will be selling shirts and hats. We will also have vendors selling beekeeping supplies and woodenware. *And we are expecting our new Commissioner of Agriculture, Lorraine Merrill to make a guest appearance!*

We are looking forward to being back at the Lake Shore Farm. In the event there is bad weather again this year we have reserved the Farm on March 16. Please call an NHBA officer, WOKQ or check the NHBA website or [www.hivehealthy.com](http://www.hivehealthy.com) if you are in doubt about the meeting being held or cancelled due to weather.

The lunch is a buffet style dinner and will include dessert. *Please note the cut off for meal reservations is March 10.*

The registration form is on page 4, please get your forms in early if you want to be assured of getting the meal. **Directions to meeting on page 2.**

**KEEP THE NEWSLETTER COMING...RENEW YOUR  
NEW HAMPSHIRE STATE BEEKEEPERS ASSOCIATION 2008 MEMBERSHIP  
PLEASE COMPLETE AND SEND THE FORM ON THE BACK OF THIS NEWSLETTER  
THIS WILL BE YOUR LAST NEWSLETTER IF YOU HAVEN'T RENEWED**



## Powdered Sugar & Screened Bottom Board

Organic Varroa Mite Control  
by Rick Pierpont

At the SNEBA meeting in Connecticut last Fall, Janet Brisson gave a presentation on the use of Powdered Sugar and Screened Bottom Boards for the control of Varroa Mites. Janet Brisson has lot of practical bee-keeping experience on her family's organic farm. She also sells a Screened Bottom Board designed to monitor and control Varroa Mite levels within a hive. Her web site is [www.countryrubes.com](http://www.countryrubes.com)

Varroa Mites have special pads on their feet that allow them hold on to the backs of the honey bee without falling off. You cannot easily dislodge a Varroa Mite by physically trying to remove them. Powdered Sugar interferes with their ability to hold on and they easily fall off. The Powdered Sugar does not kill them, so they can simply crawl back onto the next honeybee that comes by. *This is why the screened bottom board is so important.* The mites will fall through the screen, out of the hive and they will not be able to latch on to another honey bee. They eventually die outside of the hive.

Janet recommends sifting the powdered sugar to make the finest possible dusting of sugar. This can be done directly over the open hive with a hand held sifter, sifting the sugar down between each of the frames. The idea is to coat the honeybees with a fine dusting of sugar. This does not injure the bees in any way. Use one cup of sugar per deep box. You don't need to separate your supers and do them individually, instead you can use two cups sifted over a single hive that contains two deep boxes. You can use more sugar, but you only need enough so that you can see the sugar come out the bottom of the hive.

As an alternative, you can cover the open hive with a window screen and brush the sugar through the fine mesh in the screen. Don't use #8 hardware cloth, because this screen does not provide a fine enough opening for sifting the sugar.

This method of Varroa Mite control does not have any affect on the mites that are breeding within the capped cells of the brood nest. Therefore, powdered sugar must be applied three times, five to seven days apart. The sugar cannot be applied during cold weather when the bees have formed a cluster. The first application should be in the spring when the bees first become active. The procedure can then be repeated every other month, or as needed. You can use this method when you have supers on the hive—just remove them, dust the brood nest and put the supers back on.

*Thanks Rick for submitting this article!* Editor

*This method is the way to go for the small scale bee-keeper. Used in conjunction with Drone Brood Removal will reduce/eliminate your need for chemicals in the hive. But like all good systems you have to put in the time for it to have positive results. \*See Drone Brood information page 5.*

## CATCH THE BUZZ

Some of the first research results from USDA on CCD presented at the Entomology meeting in San Diego.

The latest report on research results from USDA trials came to light at both the San Diego meeting and the Sacramento meetings. There were some at both and together they make a good story.

Last fall researchers gathered 160 colonies that showed symptoms of having Colony Collapse Disorder. They wanted to study the phenomenon that colonies that die of suspect CCD aren't invaded by those opportunist pests beekeepers routinely see when a colony dies...bees from other colonies robbing out the honey and other scavengers like wax moths and small hive beetles. Also, when bees were put back in hives that had died from CCD, the new bees came down with the symptoms and the colonies again perished. This was completely alien to the beekeepers who experienced this...it just wasn't in the rules.

So researchers took 40 colonies of the 160 colonies and had them irradiated - just like medical instruments - to sterilize them; 40 colonies were not treated at all, these then being the control colonies; 40 colonies were treated with acetic acid, known to control other honey bees pests on beeswax comb; and 40 of the colonies had the brood comb removed and the new bees were put on the comb found in honey supers, thinking no brood had been there previous to the addition of new bees.

All 160 colonies then had packages of honey bees put back on them, the bees coming from shipments from Australia. The colonies were fed the standard treatment for the antibiotic common for treating Nosema at the rate of one gallon, two times. They were also fed supplemental pollen substitute to help acclimatize and get ready for the honey flows to follow. The colonies were tested for varroa mites and were tested for Nosema infection. Varroa tests showed very, very low infestations, and colonies treated for Nosema showed low levels, or no levels of infection after treatment. This is a key measure since both of these maladies have been implicated in causing or contributing CCD in colonies.

*Continued page 5*



## For Honey Bee Queens multiple mating makes a difference

The success of the "reign" of a honey bee queen appears to be determined to a large degree by the number of times she mates with drone bees.

That is what research by scientists in the Department of Entomology and W.M. Keck Center for Behavioral Biology at North Carolina State University suggests. Dr. Freddie-Jeanne Richard, a post-doctoral research associate; Dr. David Tarry, assistant professor and North Carolina Cooperative Extension apiculturist; and Dr. Christina Grozinger, assistant professor of insect genomics, found that the number of times a honey bee queen mates is a key factor in determining how attractive the queen is to the worker bees of a hive. Their research was published Oct. 3 in the online scientific journal PLoS ONE (<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0000980>).

A honey bee queen mates early in her life, Tarry explained, but usually with multiple partners, the drones of another bee colony. Richard, Tarry and Grozinger found that the number of partners appears to be a key factor in making the queen attractive to the worker bees of a colony - the more partners, the more attractive the queen is and the longer her reign is likely to be.

The scientists also conducted experiments that suggest that the number of times a queen mates is a factor in altering the composition of a pheromone, or chemical signal, the queen produces. It is the composition of this pheromone that appears to attract the worker bees of a hive.

A honey bee colony consists of a single queen and several thousand sterile worker bees. Throughout most of her life, the queen's job is to lay eggs. However, early in a queen's life, she makes several mating flights. On these flights, she mates - in midair - with anywhere from one to more than 40 drones. The average number of drones with which a queen mates is 12. The queen stores the semen from her mating flights for the remainder of her life, two to three years for a long-lived queen. However, some queens are not so long-lived. They are rejected by the workers of the hive. The research of Richard, Tarry and Grozinger sheds light on this rejection mechanism.

Because queens mate early in their lives and store semen, it stands to reason that queens that have mated multiple times and accumulate more semen might be more valuable to a colony. But Tarry said researchers have not studied the impact of the number of times a queen mates on her physiology until now.

To determine the effect mating has on honey bee queens, the scientists artificially inseminated queens. Artificial insemination was necessary because it's difficult to determine the number of times a queen mates under natural conditions. Some queens were inseminated with the semen from one drone, others with the semen from 10 drones. The scientists then put the queens in hives and observed them.

They found that worker bees paid more attention to the multiply inseminated queens. Worker bees demonstrate what is known as a "retinue response" to their queen; they lick her and rub their antennae on her. The retinue response to the multiply inseminated queens was more pronounced. "This tells us the workers can tell how many drones the queen has mated with," said Grozinger.

Like many animals, honey bees use pheromones to communicate. When Richard analyzed pheromone produced in the mandibular gland of honey bee queens, she found that pheromone composition changes dramatically after queens mate and that the number of times the queen mates appears to be a key factor in determining the extent of pheromone alteration.

Richard added that when worker bees were exposed to pheromone from queens inseminated with semen from one drone and queens inseminated with semen from multiple drones, the workers showed a preference for the pheromone from the multiply inseminated queens. Richard added that an analysis of the mandibular gland pheromone found differences in the chemical profile of pheromone from once-inseminated and multiply inseminated queens. The scientists also found differences in the two types of queens in brain-expression levels of a behaviorally relevant gene.

"Our results clearly demonstrate that insemination quantity alters queen physiology, queen pheromone profiles and queen-worker interactions," the scientists write in the PLoS One paper.

Tarry said the research could have implications for bee breeding and for beekeepers. The research suggests that queens that mate with multiple partners are superior, so breeders may want to select for this behavior. At the same time, beekeepers usually buy mated queens when they re-queen their hives. Tarry said it should be possible to devise a test to determine if a queen has mated few or many times. Such a test would help beekeepers determine the quality of the queens they buy.

Written by:

Dave Caldwell, [dave\\_caldwell@ncsu.edu](mailto:dave_caldwell@ncsu.edu)  
Department of Communication Services NCSU

### Check your bees...

If you haven't already. The bees may have eaten their winter stores. If the hive is light you will need to feed with dry sugar or fondant until march when you can feed syrup. Feeding syrup too early causes dysentery and bees to fly looking for nectar source.

Have your pollen patties ready to feed in mid March to supplement and encourage brood rearing. Be sure to keep an eye on your colonies early spring build up to monitor for swarming. Divide strong colonies or at least give them room to grow.

**This Just In...**Dr. Tom Seeley will be speaking at the ME State Beekeepers Meeting April 12, 2008 in Augusta ME. For more info contact Carol Cottrill (207) 364-0917,

## Catch the Buzz - CCD *continued from page 3*

Already in December almost all the beekeepers with the colonies were reporting high losses. Almost all of them. Those colonies treated with acetic acid, the control colonies and those put on just honey comb were all reporting about a 50% loss late in November. The colonies that had been irradiated showed a 70% survival rate, which, in the world of commercial beekeeping isn't too bad, unfortunately. And, though not perfect, it seems that the irradiated colonies, by faring better, point to some relationship between a living organism and CCD, though there is some speculation that irradiation will cause some pesticides to break down too, so that hasn't been ruled out.

The conclusion by the investigators was, at least so far, CCD is "likely an interaction of pesticides, Nosema, virus, nutrition and mites". But what role each of these plays is still undecided, or unfound. No single factor stands out yet.

This message brought to you by Bee Culture, The Magazine Of American Beekeeping Sign up for *Catch The Buzz* online [www.BeeCulture.com](http://www.BeeCulture.com)

### Integrated Pest Management (IPM)

The February 2006 *Bee Culture* had an interesting article titled *Manage Varroa—Remove Drone Brood* by Nick Calderone. If you don't get the magazine you can find it online at [http://www.masterbeekeeper.org/B\\_files/dronecomb\\_exchange.htm](http://www.masterbeekeeper.org/B_files/dronecomb_exchange.htm) It offers practical advice on how to implement this method.

Drone removal is based on three aspects of the mites biology. First, mites spend most of their time in capped brood cells. Second, they can be found 5 to 12 times as often in cells with drone brood as in those with worker brood. Third, mites using worker brood as a host average 1.3-1.4 offspring, while those using drone brood average 2.2-2.6 offspring. By removing capped drone brood from an infected colony, you remove a disproportionately larger number of mites with out affecting the worker population suppressing the mite population during the brood rearing season.

The efficacy is high if you use *scheduled maintenance* to monitor your hive and remove drone cells. **If you are not going to be vigilant you will be raising mites.** [www.masterbeekeeper.org](http://www.masterbeekeeper.org) has lots of great info

NHBA WEBSITE DIRECTORY  
is being updated

**If you would like to be listed please submit  
your information NOW**

See Registration form on back page

*You will need to be current on your dues to be  
listed or your ad will be removed.*

## Ads from Members:

Support your local Beekeepers

### Spring Fever Farm

Ben & Bev Chadwick

We will be selling beekeeping supplies,  
equipment and HoneyBHealthy  
at the Spring Meeting.

Call in your order and pick it up at the meeting.  
We carry everything the beginner or expert needs.

**603-875-3544**

### Alden Marshall

Will have 3 lb. package **BEES & Queens**  
Place your orders EARLY

3# Italian Queen Pkg. \$73

3# NW Carniolan Queen Pkg. \$75

**(603) 883-6764**

April 24-26 Pick Up unless otherwise notified  
Weather Permitting

Late May—5 frame nucs \$90

### Hillside Apiaries

Merrimack, NH.

Spring Nucs for sale in May and June.

Also all woodenware for hives, primed and painted,  
suits, jackets, veils, hive tools,  
Pierco Frames and much more.

**Call Allen Lindahl 603-429-0808**

### Honeybees For Sale

Our 3-Frame nucleus colonies will be available for  
pick-up in late may or early June, \$100ea.

**Merrill's Honeybees, Charlestown, NH**

For more information or to purchase on-line  
[www.merrilland.net](http://www.merrilland.net) or call Kurt  
at **603-542-5729**.

*Also selling surplus bottles, bears, rounds, hand  
cream jars and more (call for list)  
entire lot \$270 =25% off retail*

### Trail's End Farm, RI - Packages and Nucs

5 Frame Nucs (no feeder) non-return box \$110

Russian, NWC, Italian, Purvis Goldline Queens

3# & 4# Italian Packages available and  
Russian Hybrid 3# & 4# Packages

Call **401-539-0434**

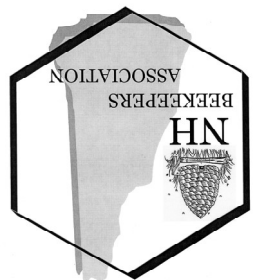
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It's that time of the year...to renew your membership  
If your label shows, *07*'s time to renew

**NH Beekeepers Association**  
**Newsletter**  
c/o Wendy Booth  
37 Swan Drive  
Nottingham, NH 03290



**NH Beekeepers Association**  
2008 Membership, & Meeting Registration Form

Name(s) \_\_\_\_\_

Street or PO Box \_\_\_\_\_ Town \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

Phone \_\_\_\_\_ E-Mail \_\_\_\_\_

Renewal \$10 \_\_\_\_ New Member \$10 \_\_\_\_ Donation to Bee Research fund \$ \_\_\_\_\_

I prefer my newsletter (check one): PAPER \_\_\_\_ E-Mail \_\_\_\_ I would like information about local bee clubs \_\_\_\_

*Optional: I would like to be listed on the NHBA website & directory for the following:*

\_\_\_\_Honey \_\_\_\_Beeswax \_\_\_\_Nucs \_\_\_\_Pkg Bees \_\_\_\_Queens \_\_\_\_Swarm Collection  
\_\_\_\_Salve/Soap \_\_\_\_Supplies \_\_\_\_Mentor \_\_\_\_Pollination \_\_\_\_Candles \_\_\_\_Bee Removal \_\_\_\_Other

If you would like to be more specific, please submit the additional info and space permitting we will do our best to oblige. Listings are exclusively for NHBA members for services and or business conducted within the state of NH

**March 15 Spring Meeting Registration- Buffet Lunch**

\$20 per member with lunch or \$5 with NO lunch

Number attending \_\_\_\_ with lunch **\$20 each** Number attending without lunch \_\_\_\_ **\$5 each**

**\* Cut off date for meal reservation is March 10\***

**Make checks out to NHBA & Mail to:**  
**Wendy Booth, Treasurer, 37 Swan Dr., Nottingham, NH 03290**

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