



# The Newsy Bee

Newsletter of the Delaware Beekeepers Association

Issue #128

Fall/Winter 2013

## Colony Weight and Sound Monitoring

Ray Walker

I've been experimenting with non-intrusive colony monitoring methods to learn more about seasonal colony conditions. I started hive weight monitoring in the spring to measure pollen/nectar collection rates and comb/wax production. I used a portable digital scale and pry bar design (see reference #2 below). I wanted to avoid opening hives to count how many frames contained pollen/nectar collected during the past week and how many frames had freshly drawn comb. I also wanted to predict when I should add another honey super. At the beginning of the spring nectar flow, it's easy to notice increasing nectar and pollen collection rates by periodically watching hive entrance traffic. However, the rate of collection can only be measured by routinely weighing hives - or disrupting the hive and counting frames during inspections. The collection rate is an

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## Greetings from the West

Dewey M. Caron

I send greetings from Oregon. Since my official retirement in 2009 and move to Portland, Oregon to be near the grandchildren, I have had the opportunity to meet and work with many new and established beekeepers. It has been delightful to learn beekeeping from a different western perspective.

Some of you may recall I was able to attend and talk at the 2011 DBA annual meeting when I gave a bunch of talks up and down the East Coast in March. Last year I did the same in Kentucky, Ohio, Michigan and even the Virginia State meeting during March. This year, I did not return to the states until April but then gave several talks in Kentucky (at Kelley Bee Day), Missouri and Illinois. Our retirement plan is to spend 6 months in the states and 6 months in Bolivia with Nieves' family. I get to do bees at both locations.

I remain active in EAS. I helped organize the short course and program for the 2012 EAS meeting in Vermont and this year saw several Delaware beekeepers at the West Chester EAS. Speaking of EAS, I am once again coordinator of the EAS Master Beekeeper program with responsibility to develop the written and lab exams. We did not have any Delaware beekeepers taking the EAS MB program this year. Warren Seaver was hoping to finish his MB exams but could not at last minute. Cybil Preston of nearby Northeast, Maryland did complete her requirements and is now an EAS Master Beekeeper. I look forward to some additional DBA EAS MBers in the future.

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## Colony Weight and Sound Monitoring (continued from Page 1)

important measurement because spring colony swarming normally occurs during high collection rates (see figure 2.8 in “Honeybee Democracy” by Dr. Thomas Seeley).

When adding honey supers and frames, I had to subtract their weight to measure the accumulative “pollen/nectar/wax weight”. I was also able to measure how many bees (# pounds) swarmed and left a hive by comparing the last hive weight (we caught the swarm so it was academic). I also used the scale to help calculate the pounds of honey left in the hive after harvesting (I compared this to a traditional frame count to get an average pound/frame). My conclusion is that weighing hives can be helpful and can reduce the number of hive openings/inspections (a few times). However, weighing all hives can be tedious and very time consuming. I probably will not monitor all hive weights next season (maybe just one to identify the major flow’s start/stop times). Over the winter, I’ll be researching more accurate hive scale designs.

I’ve also experimented with hive sound monitoring. The internet has lots of interesting information on hive sonograms (see references below). I started using an iPod touch (iPhone also works) with an application called n-track (a free guitar tuner that provides a real-time audio analysis chart). I tried several types of ECM (microphone) pickups and found that location/direction were critical for obtaining reproducible signals. I also tried an embedded ECM on a frame inside a screened cage – this is not very practical for monitoring more than a couple hives. I tried a \$2.99 iApp called “Swarmy” – but discontinued using it after swarm season. I found it difficult to use the menus and recording/analysis features at the hive location. Small buttons, displays, cords and earphones are awkward in a busy bee-yard. I finally experimented with a small digital note recorder (Olympus 201). I found this device easier to use and it quickly recorded all my hives sounds in one file. The recorder is also handy for noting hive conditions during inspections (no more clipboards/paper for me). I like being able to record all the hive sounds quickly, then replaying them at my desk into n-Track. With practice and time, I was able to recognize hive’s “normal” frequency and dB levels and queen-less hive audio (agitated roar, higher dB). By listening to more audio recordings and doing more research, I’m confident I’ll be able to recognize some other abnormal hive conditions.

1. Colony monitoring resources from around the web:

<http://colonymonitoring.com/cmwp/>

2. Homemade hive scale design:

[http://www.beehacker.com/wp/?page\\_id=55](http://www.beehacker.com/wp/?page_id=55)

3. Regional hive scale and climate historical data:

<http://honeybeenet.org/About/ScaleHives.htm>

4. Hive sound recordings:

<http://www.bbc.co.uk/news/technology-16114890>

5. Queen-right, poor queen and queen-less hive sounds:

<http://www.honeybeesuite.com/the-hum-of-the-hive/>

6. Sound communications in beehives:

<http://www.beesource.com/point-of-view/adrian-wenner/sound-communication-in-honey-bees/>

## Greetings from the West (continued from Page 1)

What about a Delaware EAS invitation for 2017? In 2014, the convention will be held in Eastern Kentucky and 2015 in Guelph, Ontario. We (the DBA) hosted it in 2007, 1997 and 1996 (and initially in 1973), so 2017 again? We have had large groups every time and UD has great facilities making it easy to organize and put on?

I am still gaging overwinter losses of western (and Mid-Atlantic) beekeepers – now as part of the BIP scientific advisory board. Beekeepers in Oregon are doing better than average in reducing their overwintering losses (below 20% winter loss this past season) and they are making their bees pay with an average of 5 rentals for pollinating serves per individual. They also divide colonies heavily after almond rental and sell the nucs or frames of brood (to California queen producers, for example). Honey accounts for less than 25% of annual income. Most have over 2000 colonies but there are a half a dozen making a living with around 500 colonies.

Mid-Atlantic beekeepers are having heavier losses. This spring, 33 Delaware beekeepers reported overwintering losses of  $17 \pm 5$  colonies which was about half of the  $31 +$  of the previous year. Nationally, the average losses were lower two years ago (22%) compared to this last winter (31%).

If you have not already done so, please consider adding your voice to our BeeInformed electronic survey in April. You can sign up for an electronic reminder now on the website ([www.beeinformed.org](http://www.beeinformed.org)) which has a great deal of very valuable survey information from the previous three years' surveys. It allows a beekeeper to look over the shoulder of fellow beekeepers to see what they are doing and how it might be impacting their overwintering and, new this year, seasonal success in keeping colonies alive and productive.

Your “new” editor asked that I check out the NEWSY BEE numbering. I was editor for over 20 years which accounted for three-quarters of the NEWSY BEES over the years. (The last number I put out was #122.) Dennis Friedel edited some others after 2009 and I know #126 has been published. So I believe we are up to Number 127 with the 2013 NEWSY BEE already sent. All the 122 issues (with only a couple of exceptions) are in the UD library, something I did before leaving along with a History of DE beekeeping for anyone interested.

### Calendar of Upcoming Events

<b>January 18, 2014</b>	<b>Beekeeping 101</b>
<b>March 2014</b> (Date TBD)	<b>DBA Annual Meeting</b>
<b>April 2014</b> (Date TBD)	<b>Proposed Beekeeping 201</b>

Monthly Meetings are held in each county each month. Please check the website for dates.

## 2013 DBA Officers

Ken Outten

President

[ken.outten@comcast.net](mailto:ken.outten@comcast.net)

Bob Bauer

Treasurer

[rjb.bauer@gmail.com](mailto:rjb.bauer@gmail.com)

Roseann Harkins

Secretary

[rharkins@verizon.net](mailto:rharkins@verizon.net)

Bill Leitzinger

VP-Newcastle County

[nccbeekeepers@gmail.com](mailto:nccbeekeepers@gmail.com)

Chuck Campbell

VP-Kent County

[cecampbellsr@yahoo.com](mailto:cecampbellsr@yahoo.com)

Eric Thompson

VP-Sussex County

[firststateapiaries@comcast.com](mailto:firststateapiaries@comcast.com)



## Fall/Winter Beekeeping “To-do” List

Honey has been gathered and the cold weather is setting in. But the successful beekeeper cannot sit idly by in front of the fire during the chilly, short days of winter. Here are some of the things that you will be tending to:

By this time you have:

- ✓ Inspected your bees for the last time and confirmed the presence of a queen
- ✓ Verified adequate honey stores to feed the hive through the winter.
- ✓ Been feeding and medicating or using integrated pest management techniques.

Going into the winter, here are some other chores to take care of.

- ✓ Provide adequate ventilation.
- ✓ Wrap hives if you decide to.
- ✓ Provide a windbreak if a natural one is not in place.
- ✓ Add mouse guards.

Now that your girls are clustered for the winter, you can rest. NOT! Here is when you use your time wisely for the preparation and expectation of another banner honey producing year.

- ✓ Monitor your hive entrances keeping them clear of dead bees or snow.
- ✓ Clean and repair your equipment.
- ✓ Order what you will need for next year.
- ✓ Read everything you can get your hands on about your favorite insect!

Our president, Ken Outten, has been busy in the news again. This time the Delaware State News published an article by Jen Rini on October 1, 2013. The importance of managing bee populations for pollination was stressed once again. It cannot be overstated. Thanks, Ken, for helping to keep bees in the news.

# Ken's Musings

## A Message from the President

DBA Members,

Since our last issue, there has been a lot going on. First of all, we participated in the Delaware State Fair. Several members entered honey and honey products in the competitive exhibit, which can be found in the Dover Building. Many members have mentioned getting a concerted effort to increase the number of exhibitors participating. You know, a little friendly competition.... It was recommended that maybe everyone should save two jars of honey for the fair, one to enter in the competition and one to put on display at our booth. Something to think about!

We also manned our association's exhibit in the Delaware Ag Commodities Building, like we always do. This year the exhibit was expanded and drew quite a bit of attention. The exhibit included a mannequin dressed in a bee suit (which many thought was a real person). Our mannequin was standing next to a hive that we gave away. The association has talked about doing this for some time and this year we actually did it. The purpose of this initiative is to increase awareness in the plight of the honeybee. Our winner was a 20-year-old from Laurel, Delaware. Our winner will also receive a one-year DBA membership and registration for the Beekeeping 101 class.

In our exhibit, we also had several examples of hive configurations for the public to inspect. Around the corner from the mannequin and hives, we had an "old" extractor and a sample bottling station. Member honey was on display, as usual, as well as a collage of pictures promoting bees and beekeepers alike.



The main draw was our new two-frame observation hive which held a live queen each day! There was plenty excitement from kids of all ages, as they searched for the queen (everyone wants to see the queen!). Plenty of honey stix were given away to the first kid to identify the queen. Of course, everybody else got them too. Our members were able to make quality contacts and have meaningful conversations with the public with this new attraction. It was a pleasure to watch many of you demonstrate your expertise and share your passion for beekeeping. Both the visitors and fair staff were equally impressed with our organization, as we were the main attraction in that building!

The second major event was our "Open Hive". This event was held at Redden State Forest in Georgetown, Delaware. Wonderful presentations were given by Dr. Debbie Delaney and first year beekeeper Brielle Hermstedt. Brielle is a freshman at Milford High School, and did an outstanding job with her presentation! Brielle is doing topbar beekeeping as her "Supervised Agricultural Experience" with the Milford FFA. The highlight of the day was a group of young ladies that attended with their church mentors. They were extremely

interested in Brielle's presentation, and the expert open hive demonstrations by Dr. Delaney. In a sense, this was kind of a woman's day. ☺ They even sent us a nice little thank you letter.

Next up is our Beekeeping 101 course. We are in the process of putting the finishing touches on this event right now. It will again be held at Delaware State University's outreach center located in Smyrna, Delaware. The event is planned for January 18, 2014. Please help us spread the word to up and coming beekeepers or want-to-be beekeepers.

Hopefully your beekeeping chores are all caught up, and you can sit back and wait on spring.

Sincerely,

Ken

P. S. Winter is a great time to get next year's equipment ordered and put together. I know I'm making my Christmas list for Santa right now...



