



# Illinois State Beekeepers Association Bulletin

September/October 2015 Volume 98 Number 5

## Letter from the President

Mike Mason

Hello Beekeepers,

Fall is here on our doorstep and all the things we have put off are now presented to us with limited time to complete. That wax you have been meaning to put in the solar melter and those last few supers that are still on that you need to pull. Without the heat, it is hard to melt wax and volatilize with your fume pad. Try to get that last treatment for mites on if needed. Time to check the weight of your colonies and determine which ones need to be fed.

The State Fair was a success and ice cream sales were up. The Fair allowed us to keep the Illinois Building open longer on weekends which helped increase our sales. We also had a lot of volunteers come in to assist manning the booth and selling their products. Always a great time. The champion honey brought \$600 at the Governor's Sale of Champions on Ag Day which was down a lot from recent years but so too were the other commodities in the auction. ISBA bought the honey and then donated it back for a subsequent auction to benefit Ag in the Classroom. The second auction brought \$500.

Another positive was the addition of the First place premium pin that ISBA contributed for each first place winner at the Fair in the open class. The pin was designed to look like pins from long ago that were presented to winning participants. The metal pins consist of the ISBA state logo with a bee hanging from a ribbon that attaches to a bar pin.



The line-up for the fall meeting is set. More details are provided here in the Bulletin and will also be distributed to members by email. We will also be honoring some deserving beekeepers.

We hope to see everyone at the fall meeting.  
~Mike

## 2015 American Beekeeping Federation Conference

The 2016 American Beekeeping Federation Conference & Tradeshow will be held in Ponte Vedra Beach (Jacksonville) Florida at the Sawgrass Marriott Golf Resort & Spa, January 5-9, 2016. Join us in sunny Florida for Palm Trees & Healthy Bees - where we'll focus on improving bee colony health and sustainability during a challenging time for beekeepers. As always, this conference promises to bring you the most up-to-date information within the beekeeping industry, the latest products and services offered by our many exhibitors and sponsors and fantastic opportunities for you to network with your fellow beekeepers.

### 2016 ABF Conference & Tradeshow features:

- ~Top-notch general session presentations all day on Wednesday and Friday
- ~Vendor tradeshow with the latest and greatest products and services in the beekeeping industry
- ~Keynote presentation led by TED Talk alum and

- top honey bee researcher Dr. Marla Spivak
- ~Shared Interest Group (SIG) meetings on Thursday for Producer/Packer; Small
- ~Scale/Sideliner; Package Bee and Queen Breeder: Commercial
- ~Track session on Thursday for Beginning Beekeepers, Serious Sideliners, Commercial Beekeepers and Research presentations
- ~ABF Business Meeting on Friday afternoon
- ~15 workshops on Saturday from 8:30 a.m. – 3:00 p.m.
- ~2016 Honey Show
- ~Various silent and live auctions benefiting the ABF legislative fund and the American Honey Queen program
- Visit [www.abfnet.org](http://www.abfnet.org) for more information and to register.

# APIARY INSPECTION SUPERVISOR'S REPORT

## Steve Chard, Illinois Department of Agriculture

Hello to everyone! Hope your fall has been going well and you have/will harvest an excellent honey crop!

The Department is pleased to again host the ISBA Annual Fall Meeting on Saturday, November 14 in our auditorium. To locate the Department's building at the Illinois State Fairgrounds, enter Gate 11, which is directly west of the State Fairgrounds Main Gate on Sangamon Avenue. As you travel through Gate 11, you will see the Department's red brick building just ahead and to your right. Please park in the large parking lot just west of and across the street from our building. Parking spaces directly in front of the building are limited to handicapped and 1-hour parking. Access to the building is through the main entrance on the west side. Once you enter our building, you will be guided to the auditorium and the respective registration table. The ISBA has an excellent agenda in store for you. Please attend and actively participate in this important meeting.

The beekeeping community is really abuzz about Oxalic Acid for varroa mite control. Brushy Mountain Bee Farm is the distributor for the product and has experienced a slight delay in registering the product in all states due to USEPA requiring the company to revise the product label. This was after USEPA issued an emergency use approval for the product. I've spoken to the folks at Brushy Mountain and they intend to register the product with the Illinois Department of Agriculture in January 2016. We'll be sure to get the word out when the registration has been completed. We know there is strong interest in using the product and want Illinois beekeepers to have access to it as soon as possible.

Some great news, the number of registered beekeepers keeps growing by leaps and bounds. Since January-2015, **501** beekeepers have newly registered with the Department! This reflects the hard work that is being carried out by everyone to educate the public on the importance of beekeeping. The loss of bees also continues to get coverage by the media. That probably contributes to people becoming interested in beekeeping as well.

European foulbrood has become very troublesome in certain areas of the State. We are addressing this problem with several experts and hope to have some answers within the immediate future. There is an assumption that varroa mites are playing a big role in the increased cases...

As you know, the State of Illinois has not passed a Fiscal Year 2016 Budget and all sectors are experiencing adverse impacts. We wanted to inform beekeepers that the Department's Apiary Inspection Program is in good shape financially. Funding for the Apiary Inspection Program and other Department programs comes from a fee system that has been in place for quite a while. There should be no problems with gearing up for the 2016 inspection season and carrying on with our regular service to Illinois beekeepers.

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I am a small scale (six hives) hobby beekeeper in Metro East Illinois. My brother-in-law, Joe, and I got bees together five years ago but he was the one who did the reading and studying and most of the work. I mostly just handed him the hive tool or bee brush and nodded wisely as he talked about what was going on in the hives. So when Joe moved to Oklahoma two years ago and I found myself the sole keeper of the bees it was definitely an “oh crap” moment. I was going to have to take care of these bees all by myself! I did manage to make it through 2013, despite swarming hives and an invasion of small hive beetles, and even harvested and sold a fair amount of honey. Unfortunately 2014 was a very different story.

First, I lost one of my hives to starvation (I think) over the winter. Then I was one of the many southern Illinois beekeepers who got European Foulbrood in the spring. Thanks to the timely assistance of my wonderful beekeeping community and my apiary inspector, the bees have all recovered and seem to be in good shape. But the experiences of 2014 taught me a much needed lesson – that up till then I’d just been lucky and to be successful in the future I really needed to have a much better understanding of beekeeping. So I began reading and talking and going to conferences and taking classes – one of which was David Burns’ class on Overwintering Bees, which I attended October 6, 2014 at Long Lane Honey Bee Farm.

David is an EAS-certified Master Beekeeper who has been keeping bees for over 20 years. He and his wife, Sheri, operate the educational website HoneyBeesOnline.com, in addition to teaching, writing and making and selling equipment and all things bee-related. I have read and profited from many of the online lessons so I was really looking forward to the day-long class on Overwintering Bees, especially because of my 2014 winter losses and the weakening of my hives from EFB.

The class exceeded expectations. It was small – there were about 10 of us – which allowed everyone a chance to ask questions. Most of it was held in the Burns’ new classroom, which was roomy and comfortable, and we also had access to several hives for hands-on learning. The class covered seven main topics:

- Characteristics of the Winter Cluster
- Vitellogenesis
- Last Fall Inspection
- Varroa Mite Control

- Adequate Food Storage
- Winter Wrap
- Tools, Tricks and Tips

Characteristics of the Winter Cluster: David emphasized that bees do not hibernate during the winter; when the temperature drops below 50 degrees they cluster close together with their heads in the cells and vibrate to keep warm. The colder the outside temperature the tighter the cluster becomes. During the winter the cluster moves up into the stored honey but the bees must stay on the brood to keep it from freezing. We all know that if there are not enough stores in the hive the colony can starve, but it can also starve if there are not enough bees to both keep the brood warm and move to the food at the same time. The magic number of bees seems to be about 40,000.

Vitellogenesis is something I had never heard of (and still can’t pronounce) but it is the process bees go through to produce reserves of vital protein (vitellogenin) in their bodies. This vitellogenin also acts as an antioxidant, helping bees combat viruses caused by mites, thus living longer (the bees, not the mites). To encourage this process David suggests feeding bees heavily in late summer and fall, providing both protein and sugar water.

David believes the Last Fall Inspection is the most important inspection of the year. But don’t put it off until the day before the first frost or it may be too late to fix any problems you find. You should check the condition of the queen, the population of the colony, the amount of brood and signs of pests and diseases. Small hive beetles will overwinter in the cluster and Varroa mite loads tend to be high in the fall so check carefully for both of these.

Varroa Mites have become a major problem in recent years, carrying viruses that can weaken or destroy entire colonies. There are several ways to test mite loads, including sticky boards, the powdered sugar shake or an alcohol wash. In the class we conducted a powdered sugar shake, in which you scoop up 300 or so bees in a screen-top jar and add powdered sugar. Shake until bees are well coated and then shake the sugar (and mites) out onto a white plate, add a little water and count the mites. Ideally you want to see the equivalent of three percent or less mite-infested bees.

There are several ways to address the varroa mite problem – keeping Varroa Sensitive Hygienic (VSH) bees, trapping mites with green drone comb, screened bottom boards, powdered sugar treatment, breaking the brood cycle or medication/chemicals.

I have seen great genetics come out of feral hives. That factor, and the thrill of getting "free bees" into a hive make it tempting to go after a cut out or a trap out. But there are definite prerequisites that have to be met before I'll load up my equipment and take my time to "rescue a hive". It has to be the right time of year, and I have to have the time and cooperation of the people that have the bees – otherwise I'm wasting my time.

Cut-outs can be a win-win. Long surviving feral hives have the genetics you want, and you also want to help the homeowner get rid of the bees in a humane way. Some extractions are easily accessible, and I can do them in one day. Some hives have to be trapped out. That can take as long as two months. Example: I've trapped three colonies out of the Lincoln Home National Historic Site. There is a strict rule that no pesticides may be used in there. And because its a historical site, the building structure can't be altered or damaged in any way. But rather than exterminate them, thankfully they want the pollinators saved. A trap out is the only way to go. Exterminating them and just killing the bees, leaving them to decay with the honey, pollen and brood, would be damaging. It would host mold, mice, and other pests. Luckily, Lincoln's Home took the advice of a beekeeper not to fall into this trap. Some homeowners choose otherwise, not wanting to pay what a beekeeper is asking for doing a cut out. I've seen people end up with rodents and honey running down the wall, and across the ceiling, or have to cut the ceiling out. The pesticide companies around town call the bee removal guys now. I plan on taking some pesticide guys with me on an extraction. They want to see what's in the wall, so they know what situation was created when they exterminated bees.

The perfect time of year for cutouts depends on the weather, of course. In Springfield, usually mid May is the time that colonies are starting to build up. That's the ideal time to rescue a hive, when the queen is laying strong, and its still cool enough that the comb won't fall apart in your hands.

The next most important question to ask yourself: "How accessible is the hive for removal?" This is key to being able to do a thorough completion of the job. Homeowners call beekeepers for complete removal of hives. You have to insure that the bees

will be gone for good, and all of their materials too. Along those lines, honey shouldn't be an "after-thought" when doing a cut-out. What will you do with the surplus honey that a feral hive might have? I have removed as much as twenty-plus gallons of honey from an extraction, in the summer of 2014 in Mechanicsburg. That hive was in the soffit of an old farm house, pre-1900s, up on the third story. I took a full colony of bees out, and in addition I had twenty five to thirty gallons of honey. I could see how healthy the bees were, so obviously it was safe to feed the honey back to bees.

When talking to a homeowner, you should be able to tell them what qualifications you have to do cut-outs. Can you get bees out without killing them, only doing minimal damage? What kind of construction tools do you have? Experience in carpentry is a plus. You want to remove the minimal amount of drywall or wood. Try to leave it easy for homeowners to reassemble.

Have an complete arsenal of cut-out tools ready to go. Every time I go, and I think I'm prepared, I always find there's something more I wish I had. A bucket of water is my most crucial tool, because I end up taking a bath in honey.

You can work from both outside and inside. Feel for the heat of the bees, or a warmer temperature on the floor, wall or ceiling, or use a thermal temperature gun. Listen for the bees. I put my ear to wall, floor or ceiling. Listen for that distinctive hum. It sounds just like a hive. Usually, I try to get an idea of the size of a colony by listening and feeling. Then I drill a small hole just outside of where I think the majority of the hive is. I set my power saw or sawsall just to the depth of the structure material, so I'm not cutting into bees or wood. I find the best tool for cutting out the comb is a J hook hive tool or a sharp knife.

Working from the inside, you have to keep bees from flying around in the house. Bees orient to light, so if you have a window, you can leave it open and let them fly out or vacuum them up from the window. Close off the rooms with sheets and masking tape, or close the doors. It doesn't hurt to put something under door, like a towel.

I don't wear gloves when I do a cut-out.

Occasionally I wear a veil. I wear it when I first open into the space, waiting to see the attitude of the bees. Then I keep my bee vac running. Its a homemade bee vac, and it seems to keep the alarm pheromones moving so that they can't figure out what's going on. As you get close to the end of the removal, the bees will get ready to abandon ship on you, so you have to get ready to vacuum up a lot of bees in a short time. Every time I've done it, when I get to that certain point, the bees start to look for their exit, and I need to have access from the inside or the out. Usually the queen is in that last group, so they have to be captured. A queen will stay in the  $\frac{3}{4}$  inch hole in a brick. I've seen her there and couldn't get to her. When I turned my light off her, she came out and I was able to vacuum her.

Once the comb is cut out, I immediately put it in empty frames with rubber bands. I reduce the entrance of their new hive, because I give them their own open honey from their honey comb. Completing a perfect cut-out only to lose the hive to robbers is a terrible thing.

I put a queen excluder between the bottom board and the bottom box. Usually a cut-out queen is fat and laying. Keeping her in the hive keeps the rest of them there with her. I give ten frames of drawn out wax foundation on top of the cut-out hive body (from a starvation dead out that had been healthy). They get an inner cover, and their honey comb, with an empty hive body, and a sealed lid so no bees can rob from the outside. Its also very helpful to give a frame of open brood from a strong colony.

The worst cut-out I ever had was in Athens. It made the entertainment column of the State Journal Register. I thought the colony was going to be accessible from the outside of the house with a small amount brick removal. I worked with a fellow beekeeper, Les Mason, a masonry contractor (Mike Mason's brother). We started working from the outside. The spaces were 20 inches wide, like the floor joists in an old house. We had to cut up the bathroom floor to get these bees. The hive ended up being, 8 feet long, 10 inches deep, and completely full of bees. We removed them in September, 2 days after my 30<sup>th</sup> wedding anniversary. It filled four deep hive bodies, and gave us 40 gallons of honey to deal with. They had almost made it through the winter. They were my last winter loss, lost in March.



Trap-outs, on the other hand, are a whole different animal - they're more difficult. One tool of trap-outs is another strong colony to rob open brood from. You have to keep this brood viable until you reach your source of where you're trapping the bees out. You have to find every possible access point, or other entrances the feral hive might have besides the one you're working with. Any possible access point, the bees could use to get back to their colony – and they are creative! The worst trap-out I've done was at the Clayville Historical Site in Pleasant Plains, 15 miles out of Springfield. The hive was in a non-accessible crawl space under the kitchen. The construction was odd in the first place, and I'll never understand why it was built the way it was. I put my trap out cone on, and the first four days went great. A whole hive body filled up with bees, and they were making queen cells from my brood. The problem was the bees kept finding multiple alternate entrances, as far as 25 feet away from their original entrance. The house was old metal siding. Every time I put duct tape on their new entrance in the siding, they'd go up a foot higher, or find a different spot. In the process of trying to seal up all possible entrances, a wind storm came through, and tore up the house. The contractor they hired wouldn't work around the bees, so I had to be creative, sealing it up with Visqueen sheeting and insulation. Within two weeks I had the bees out. It took a lot of patience and perseverance.

With all of the hassle that cut-outs and trap-outs can be, you can find yourself wondering “Why do I do this?” But anyone determined to keep at it knows – you do it for the love of bees. I probably have “bee fever”. But I also enjoy the challenge, like everything else in life. Like martial arts, or high voltage electricity. Extreme bee rescue is an intense way to enjoy the hobby.

# Overwintering Bees Continued

David prefers not to use chemicals; however, if nothing is working he suggests using formic acid as it doesn't get absorbed into the wax or honey.

Adequate Food Storage includes not just honey but pollen as well. Ideally bees should have 60-80 pounds of honey to survive the winter but you can provide a sugar mixture if you think your hives are light. David suggests candy boards to which pollen or pollen substitute has been added, which should be put on the hives when it is too cold to feed sugar syrup. He gave us several recipes for different strengths of syrup, pollen patties and grease patties to meet a variety of feeding needs.

Another topic of discussion was the use of Winter Wrap on the hives. David discussed the advantages and disadvantages of roofing paper and various types of wraps or insulation. He suggests using a windbreak three feet away from the hives if they are not in a sheltered location.

The final topic was Tools, Tricks and Tips. We discussed mouse guards, heating lamps and moving hives indoors, along with the use of double walled hives and top bar hives. David also suggested requeening in July

so that the colony can go through winter and start the spring with a vigorous young queen.

Interspersed with the formal class was much miscellaneous and fascinating information:

- It has been reported that honey in hot tea is better at reducing cholesterol than a currently popular medication;

- Some beekeepers score the insides of their hives or staple something rough in them to encourage the production of propolis, which is known to be antibacterial and believed to reduce viral loads;
- 19<sup>th</sup> century beekeepers harvested honey in the spring, rather than summer, ensuring that the bees had what they needed to get through the winter;
- If a queen doesn't mate within 21 days she never will;
- And finally, and perhaps most importantly, don't ever let mice pee on your frames – the bees will never use them again.

Thank you, David, for a most useful and informative class. I highly recommend it.

## Editor's Letter

Illinois is a diverse landscape, a spectrum of climates, from snowmobiling Beloit to the tupelo swamps of Cairo. Another feature along this continuum is a shifting color - a cool blue up north, shifting gradually to red as one travels south – the Cubs-Cardinals rivalry. I have lived in Southern Illinois for almost a decade now, deep in the heart of Illinois' Cardinals Nation. They say the baseball is excellent here, but somehow I had forgotten that I cared for the sport until just recently. Suddenly, a prophesy from 1989 comes crashing Back to the Future! In the movie “Back to the Future 2”, when Marty McFly coasts to a stop, stepping off his flying skateboard, he picks up an October 22, 2015 newspaper and finds that the Cubs at last won the World Series.

Here it is as I type, October 22<sup>nd</sup> 2015. My husband says: “What a laugh that Back to the Future film author is having today. He's from St. Louis, you know. He played a pretty cruel joke on you Cubs fans.” My husband is mean like that. But I will get back at him. I will ask him to help me with my bees, and I will cut the fingers out of his gloves.

Jokes aside, maybe some (of us) Cubs fans became more superstitious than our characters usually allow, believing in predictions drawn by old movie sequels. As beekeepers, however, though we might be watching the colors on woolly worms to guess what kind of winter we're having, we are more like the bees – sticking with the routines of readying our hives for

## Eleanor Schumacher

winter. Hopefully we started winter preparations before September. Hopefully we'll get our mouse guards and wind breaks in place in the next few days. As we keep honing a better winter-prep routine, we get more and more hives through the winter.

Maybe by the time the future arrives, some of today's young beekeepers will have tools to accurately predict the weather several months out. Maybe these tools will help them plan for when to add supers. Imagine how helpful it would have been to know how much rain to expect in June, while our honey supers sat filling up slowly, our bees unable to forage in the rain. But then great yields in July, when clover was blooming overtime. What a sharp weather app that would be that could predict specific blooms and nectar sources, so we could be ready with supers and queen excluders.

Towards these (ridiculous) dreams, I have decided to go back to school! I am taking a Masters Level class in Restoration Ecology, and an ArcGIS Mapping class. At times, my old brain feels like it will explode – the concepts and technologies of these classes make me feel like a cave woman, accustomed only to reading basic texts on stone tablets. I'm sorry to tell you that I will not be one of the inventors of the bloom-forecaster app. The good news is that my peers taking classes with me are incredibly innovative, and seem to be breezing through the materials, searching hungrily for solutions to their brilliant hypotheses and great ideas. My

# Fieldwatch Presents BeeCheck

## What is BeeCheck?

The BeeCheck® Apiary Registry was introduced in July 2015 as a **free and voluntary** online tool to help pesticide applicators and beekeepers in member states communicate more effectively and to promote awareness and stewardship activities to help prevent and/or manage drift appropriately. It is now a national registry platform that is the cornerstone of state pollinator protection plans. BeeCheck is intended to be a registry for commercial and hobbyist beekeepers.



## What are the features of BeeCheck?

- It is integrated with the DriftWatch Specialty Crop Site Registry.
- It is a mapping and communication tool that is easy to access and simple to use.
- Posting on the public map is optional; map and contact information can be limited to only applicators registered with FieldWatch.
- Beehive placement can be done via GPS or manual “point ‘n click” with mouse; no drawing required.
- Hives are identified with a 1/2 acre circle and information pin.
- Beehive sites are approved and validated by the State Department of Agriculture.
- For commercial beekeepers, multiple beehives can be submitted at the same time instead of separate submissions.
- There is a "time stamp” included for indicating active dates of a hive in a particular location.
- There is now a mobile app for tablets and phones that is being launched for registered users to better manage their hives while in the field.
- Flags and field signs are available for purchase by beekeepers with approved sites on the BeeCheck website

## Get a BeeCheck Flag or Sign

Sign into BeeCheck and click on one of your approved hive locations for a link.

## What is FieldWatch?

FieldWatch, Inc is the non profit entity that manages and operates the DriftWatch Specialty Crop Site and BeeCheck Apiary Registry. Created in 2012 by Purdue University and interested stakeholders to develop and expand the registries.

## How can I support FieldWatch?

FieldWatch is a 501(c) (5) agriculture non profit that is supported by generosity of corporate and individual donors. Contact information can be found under the membership tab at [www.fieldwatch.com](http://www.fieldwatch.com).



## Editor's Letter

professors turn my attention to an inspiring timeline of recent developments in research that address problems that concern me, such as balancing pollinator habitat with needed agricultural and urban developments. Assignments have us pouring over scientific literature, presenting our own conclusions. Keeping up with my classmates takes more concentration and organization than I ever thought I had.

Meanwhile, every day I'm talking to my beekeeper friends all over the state, hearing about incredible projects running in different regions of Illinois. There are so many beekeepers working so hard to solve problems that face us, from the Illinois Queen Initiative's effort to promote better local bee genetics via ever improving queen breeding on a state-wide level, to

## Continued

the Ag In Progress Partership which develops a classroom curriculum that illustrates the essential relationship between honey bees and agriculture, serving educational materials to future farmers and pesticide applicators.

From the northern borders to the southern confluence, the collective Illinois beekeeping community is constantly working to keep us tuned in to the ever changing developments of beekeeping. While the ISBA Bulletin, which is sort of like the cave-person's stone tablet, can't glisten with every innovative facet of contemporary Illinois beekeeping, it offers a space to share your accomplishments. So, dear readers, get in touch! Tell us what is happening in beekeeping in your neck of the woods.

# Waxing Philosophical

## "The Breathing Hive"

**Question:** What is the best way to ventilate your hives for winter? ~ Arthur Clemens, Ideal, IL

**Answer #1:** Leave them in the back of your pickup till March.

~ Rich Ramsey, Rochester, IL ~ 4 votes

**Answer #2:** I like to add a small twig under each of the 4 corners of the inner cover, and above each of the 4 corners of the inner cover. Add the outer cover with a brick or rock on top.

~ Bart Smith, Beltsville, MD ~ 4 votes

**Answer #3:** All of my hives (25) now have screen bottoms and I do put a "mite" count insert over the screen during the Winter months but that leaves a small amount of space over the screen so some small amount of air is able to flow upward to and through the hive exiting to/through the inner cover and out through the "notched" escape opening in the inner cover. The inner cover is one that provides enough space so I can put a "fiber piece (homosite)" on top of the inner cover that acts like a "wick" for moisture coming up what I think is a funnel of warm moist air. That "homosite" is vented to the outside through another small escape hole and I then cover the "homosite piece with a piece of Styrofoam to keep the cold sub degree cold from going down into the hive--possibly freezing the moisture in the fiber board. Finally, I place a Hive Cover over all parts. The edge of the Hive Cover is long enough to provide a cover for both escape holes..

All of that said, my hives are winter wrapped in either asphalt covered cardboard, quilted covers wraps or 45 lb roofing paper.

Finally, Sure I loose some hives over the winter--more than I'd like. Bummer!!!!

My spring examination indicates more than not, that the Bees had food near but not close enough to break the cluster and they starved. The past 2 winters here in Northern Illinois have had 2 extended times where the outside temperature of minus 10 degrees extended for 4-6 days. Not many hives can hold their inner 90 degree core heat when that happens so in reality, the Bees could not break the cluster to move to the food. Hoping here for a milder winter this year.

~ Bob McDonnell, Winfield, IL ~ 7 votes

**Answer #4:** Big Bad Wolf trying to blow the hive down.

~ Larry Quicksall, Effingham, IL ~ 3 votes

**Answer #5:** Popsicle sticks under the inner cover.

~ Gina Bruss, Ancona, IL ~ 5 votes

**Submitted After Voting:** We cut a 3/4" wide by 3/8" high slot in the front bottom of our feeder rings. It serves well as a moisture vent and winter bee escape if the bottom entrance gets plugged. The exact measurements are not critical, but it is essential to have an upper opening. Remember moisture kills bees!

~ Dennis Inboden, Robinson, IL

**Next Issue's Question:** Can a hive survive the winter without a queen? Long enough that I could requeen it and save it in the spring?

~ Herb Fontaine, L'Erable, IL

## APIARY INSPECTION SUPERVISOR'S REPORT continued

I'm sure most of you have heard by now that Director Philip Nelson recently resigned from his post at the Department. We certainly wish Mr. Nelson the very best in his future endeavors and he will definitely be missed. Warren Goetsch, Mr. Nelson's Chief of Staff, is currently serving as Acting Director. I have had the pleasure of working with Mr. Goetsch for over 20 years and know he

will do an excellent job as Acting Director. It's unknown as to when Governor Rauner will appoint a new Director. That person also has to be confirmed by the Senate.

Looking forward to seeing everyone at the Fall Meeting!



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# The Buzz About Town

## Doing the Math on Honey Comb

For over 2000 years, scholars have been trying to figure out why and how bees create the geometric perfection of honey comb. Why not triangles or squares, the other two shapes which also tessellate--or fit together repeatedly without gaps? Ancient Greeks believed bees engineered this shape because it is more compact. This makes sense because wax is very expensive for bees to make. They must consume eight ounces of honey to make one ounce of wax. And mathematicians have indeed recently proven that hexagons are slightly more compact than triangles or squares.

But it turns out the perfect shape is not created by the bees--at least not on purpose. It's created by simple mechanics. When researchers interrupted the bees in the middle of making honeycomb, they found that the cells started out as circles molded around the bees' bodies. As the circular cells get packed together, the heat of the bees causes the wax to melt. When the wax flattens out, the surface tension at the junctions where any three cells meet creates three perfect 120 degree angles: a hexagon.

~Justin Kitch, Curious CEO

## Illinois State Beekeepers Association On The Web

Keep up with up-to-the-moment Illinois beekeeping news and events with our fantastic ISBA website [www.ilsba.com](http://www.ilsba.com)

A hub of helpful resources, read about current events on our homepage. Find contacts of local Illinois beekeeping clubs as well as links to relevant beekeeping publications, and major beekeeping organizations. Find contact information of your local apiary inspectors, gain access to the ISBA google group, and peruse the archives of the ISBA blog. Take interest in the trends of Illinois beekeeping and honey bee pests and diseases with the archives of the Illinois Department of Agriculture's Annual Apiary Reports. Bee Involved! Bee In-The-Know!

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### Affiliate Associations: Publicize your bee events here!

Contact

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with your club news at  
[bubblebubb@gmail.com](mailto:bubblebubb@gmail.com).

List news and events on the ISBA website as well by sending the information to the ISBA webmaster,

**Steve Petrilli,**  
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Please see our **Summary of Events** page on our ISBA website - even MORE classes are listed there! <http://www.ilsba.com/summary-of-events.html>



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Membership in the Illinois State Beekeepers Association is open to all persons interested in bees and beekeeping. Beekeepers are urged to join through their local Associations or individually if no local Associations are available. Dues are \$10 for the calendar year January 1 through December 31 only. Dues include a subscription to this newsletter, the ISBA Bulletin. Beekeeping journals are available to ISBA members at about 25% discount. Mention membership in ISBA when sending your subscription payment to the publishers. Rates are subject to change without prior notice.

Make checks for membership payable to: Illinois State Beekeepers Association and mail to: Illinois State Beekeepers Association, Membership, P.O. Box 21094, Springfield, IL 62708.

Address Changes: Send old and new address six weeks prior to date of change when practical to the Association Secretary. At large members can send the changes to the ISBA Membership Director via email.

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