

# THE BUZZ!

May 2005

*An electronic newsletter from the Kentucky Department of Agriculture's State Apiarist's Office*

## **Is it FINALLY summer or spring?**

Throughout March and April, I kept saying that spring was about to arrive. Well, I'm still not sure what season it is! We have continued to have spells of unseasonably cool weather, which slowed hive buildup and collection of nectar during much of the spring. But, like other cool springs, things seem to catch up, and we seem to be in a strong nectar flow. March '05 was the coolest March that I recall in many years, with many days in which bees were unable to fly. Plus flowering of nectar-producing plants was delayed in March. It seemed like things were starting to bust loose in April, but many days of cool and rainy weather continued. It does appear that both daytime and nighttime temperatures are now looking more seasonal, but I seem to remember thinking that last month as well.

I received several reports of late winter hive collapses in April. Late winter, or early spring, is always a difficult time for bees, as their winter stores are depleted and brood activity is getting underway. Springs with on and off warm and cool/rainy weather are even more difficult, since brood production gets underway with warm weather and then it turns cold again – or rains – and bees cannot get out foraging for pollen and nectar. So if you have lost hives this spring – hives that seemed okay in February or early March – you are not the only one. We always experience some early spring hive losses, but it appears that the losses are above average this year due to continued very cool early spring weather.

But, *hopefully* the cool weather is behind us. There are a lot of blooms out there now, hives have built up, and I'm getting lots of reports of swarming. It seems, not surprisingly, swarming began a little later this year. I typically get the first reports of swarms (often from Southern Kentucky) around the first of April. This year I didn't get the first reports of swarms until mid-April, but I'm now hearing about lots of swarms.

## **Winter hive losses in Kentucky and elsewhere in the United States**

I continue to receive many positive reports of good survival of Kentucky hives over the winter. In fact, many smaller beekeepers have reported zero losses or losses of only a few colonies (5 to 10 percent losses) since last fall. However, as usual, some beekeepers have suffered heavy losses – 50 percent or more. An informal survey conducted at the spring Kentucky State Beekeepers Association meeting in Frankfort indicated that for most beekeepers in Kentucky, hive losses over this past winter have been tolerable. The result of this poll of about 35 beekeepers was that a majority of beekeepers present had losses of less than 30 percent, while about four or five suffered losses of 50 percent or greater. There were four who had lost 10 percent or fewer hives.

Why do we lose hives in the winter? Sometimes we can figure out why the bees died, but often we cannot. Starvation is pretty easy to determine; you find a cluster of dead bees in a hive, and among them are dead bees with their heads down in the cells. This is classic sign of starvation. It is not unusual to find this condition with a full super of honey in the hive, full frames nearby, or even honey on the other end of the frame containing the dead bees. The bees will sometimes cluster in one spot (especially if there is brood present, as in early spring), and refuse to move to additional honey stores. Often bees will starve to death two inches from ample honey stores. I sometimes say that they're not as smart as we say they are. In cases of starvation, there are sometimes large numbers of dead bees in the hive, and sometimes not. Often the bees die gradually during the winter, and on warm days the other bees remove them from the hive. Or the cluster may start to dwindle, and some of the bees will "jump ship" into another hive. I think perhaps that sometimes the queen dies, the cluster dwindles, and the rest of the bees jump ship to another hive, or just abscond to what they think is a better place.

Heavy losses by newer beekeepers are often attributable to lack of management experience, especially among beekeepers who have quickly increased the number of their hives with only a year or two of beekeeping experience. But, it should never be a surprise to any beekeeper to lose a minimum of a hive or two. Unfortunately, for new beekeepers, or hobby beekeepers, this may represent all or most of their hives. Experienced beekeepers consider losing 20-25 percent of their hives in the winter as acceptable losses.

### **Could there be other causes of hive loss?**

So bees die from starvation, bees die from unchecked mite buildups, and we can often determine that these are the causes. But, what about these big losses, such as those in Florida, and elsewhere in the U.S. this winter? (See the next article.) Well, unfortunately, sometimes bees die, and that's a fact of life. And sometimes, lots of bees die, and we can't figure out why. These days, when we get a lot of bee loss and can't figure out why, it is often blamed on viruses. And perhaps sometimes this is true. Viruses, like the common cold, are capable of moving through a population (be it man, bee or beast), exacting a heavy toll, and passing on. But, a sudden honeybee dieoff has never been confirmed as being caused by viruses. A couple of years ago, there were heavy losses in Alabama, which some blamed on viruses, but virus was never confirmed as the reason for the losses. Beekeepers in Alabama called it Alabama Disappearing Disease and the cause, whatever it was, disappeared soon after the bees did.

I sometimes reflect that we have chosen to manage (or attempt to manage), a complicated, social insect, and after hundreds of years of study, still find that there is much we do not know. Could there be a delicate balance at work that, when upset, causes a drastic physical breakdown in the health of colonies and of the bees? Or could it be a combination of disease, nutrition, and stress at work? Honestly, I think one theory may be as good as another.

### **So, what happened in Florida?**

This winter, many beekeepers in Florida, along parts of the east coast, and elsewhere in the country are reporting extremely heavy losses of hives. Most of the beekeepers reporting these losses own thousands of hives and move them around the country, pollinating crops such as almonds, blueberries, and cucumbers, to name just a few. Many of these beekeepers count their hives lost in the thousands. Losses of two-thirds of their colonies or more are common. You may have heard about these losses from newspapers, or other media. Some reports that you can access on the web: NBC Nightly News report: <http://www.msnbc.msn.com/id/7656383/>, and the New York Times: <http://www.nytimes.com/2005/05/02/nyregion/02hives.html?read>, and a report from Florida: [http://www.palmbeachpost.com/localnews/content/local\\_news/epaper/2005/03/28/m1a\\_honeybees\\_0328.html](http://www.palmbeachpost.com/localnews/content/local_news/epaper/2005/03/28/m1a_honeybees_0328.html).

### **So what is killing the bees in Florida?**

Resistance of varroa mites to BOTH Apistan® and CheckMite® Plus are thought to be a large part what is happening. Apistan resistance hit these beekeepers years ago, and many of them started having problems with resistance to CheckMitePlus® several years ago. (Note: In Kentucky, we have had a problem with Apistan® resistant varroa since 1999. We have not yet documented any CheckMitePlus® resistance in Kentucky.) But there may be more to these losses than resistance to Apistan® and CheckMitePlus®. One theory is that perhaps a combination of a virus or viruses, and bacteria, which are spread by mites, may be a cause of these recent heavy losses. See: [http://www.eurekalert.org/pub\\_releases/2005-05/ps-bms051705.php](http://www.eurekalert.org/pub_releases/2005-05/ps-bms051705.php). But these hive losses seem to be mostly confined to large migratory beekeeping operations, so perhaps stress or other yet-to-be-discovered problems are playing a role.

Hive losses on such a scale are NOT occurring everywhere, regardless of what the national media reports. Recently I spoke with Barry Smith, Georgia State Apiarist, about the situation in his state. Georgia has a number of large beekeeping operations, many of which supply queens and package bees to Kentucky beekeepers. But these beekeepers stay put and are not

migratory. Georgia is not seeing the large losses of colonies that beekeepers in the neighboring state of Florida are experiencing. And, as I said earlier, winter losses in Kentucky, for most beekeepers, were definitely on the light side. In addition, most beekeepers here are seeing lighter pressure from varroa mites the last couple of years. Many Kentucky beekeepers are still able to use Apistan®, and many are now doing a rotation with Apistan® and CheckMitePlus® (using Apistan® one year, and CheckMitePlus® the next).

### **Would you like some hands-on education with your hives?**

One of the most popular services that the Kentucky State Apiarist offers is free apiary inspection visits. For those of you not familiar with these apiary visits, they can best be described as educational inspections. When doing these visits, the beekeeper and I open the beekeeper's hives and look for any disease, pest, or management problems that may be present. If problems are found, I try to give advice or offer solutions to solve the problem(s). These visits are also hands-on question/answer sessions, since this is a great opportunity for the beekeeper to ask questions, both while we have hives open and before and after we get into them.

To extend the inspection program, the idea of the Kentucky State Beekeepers Apiarist program was born. This program allows qualified Kentucky beekeepers to be appointed as KSBA Apiarists. Beekeepers appointed as KSBA Apiarists must be experienced Kentucky beekeepers, pass a written examination, and go through a training session that I conduct with them. These KSBA Apiarists conduct the same type of apiary inspections that I do, and are compensated a small amount for each inspection (\$20) from grant funds (no charge to the beekeeper). I continue to conduct visits myself, but this program is a means of reaching and helping more beekeepers than I am able to. We now have a total of 15 beekeepers appointed and trained as KSBA Apiarist. They are conducting or ready to conduct visits throughout Kentucky. KSBA Apiarists are located in the following communities (or nearby): Bowling Green, Corbin, Elizabethtown, Frankfort, Georgetown, Lawrenceburg, Lexington, Louisville, Mayfield, Owensboro, and Scottsville.

I'm scheduling apiary inspection visits for myself and for the KSBA Apiarists. So if you would like a visit, please contact me by phone or by e-mail. This is a free program.

### **Beekeeping educational opportunity - Summer Kentucky State Beekeepers Association meeting**

The summer Kentucky State Beekeepers Association meeting will be held on June 17 and 18 (Friday & Saturday) at the Kentucky State University Agricultural Station just south of Frankfort (off U.S. 127). Special guest speaker will be Dr. Clarence Collison from Mississippi State University. Dr. Collison is well-known for his very informative, useful beekeeping talks.

Other speakers will include: Dr. Tom Webster from Kentucky State University; and Phil Craft, the Kentucky Department of Agriculture's State Apiarist.

### **KSBA Summer Conference KSU Farm, Frankfort, Ky.**

#### **Friday, June 17**

- 9:00 AM Eastern - Registration and Refreshments
- 10:00 AM Program Presentation by Dr. Clarence Collison  
Topic: Factors Affecting Colony Buildup in the Spring
- 11:00 AM Break
- 11:15 AM Program Continues (Dr. Collison)  
Topic: Swarming - Are You Winning the Battle?
- 12:00 PM Lunch provided - \$5 per Adult; free for children 17 years or under
- 1:00 PM Program Continues with Dr. Collison  
Topic: Wintering Basics
- 2:00 PM Break
- 2:15 PM Program Continues with Dr. Collison

- Topic: Drones - Their Value to the Beekeeper and the Colony
- 3:00 PM Executive Committee Meeting
- Saturday, June 18**
- 9:00 AM Refreshments and Registration unless previously registered
- 9:30 AM Business Meeting
- 10:00 AM Program begins (Dr. Collison)  
           Topic: Applying The Basics Of Honey Bee Biology
- 11:00 AM Break
- 11:15 AM Presentations by Dr. Webster and Phil Craft
- 12:00 PM Lunch provided - \$5 per Adult; free for children 17 years or under
- 1:00 PM Program in the Bee Yard with Dr. Collison and Dr. Webster  
           (Bring your veils and protective clothing)
- 1:00 PM Program in the Conference Room with Ann Broyles  
           Topic: Value-Added Products using Beeswax and Products from the Hive
- 2:00 PM Auction
- 2:30 PM Remaining Business, Announcements
- 3:00 PM Adjourn

For directions and a map to the KSU agriculture station, contact Phil Craft or go to:  
[http://www.kysu.edu/land\\_grant/coop\\_extension\\_program/agriculture\\_natural\\_resources/beemap1.pdf](http://www.kysu.edu/land_grant/coop_extension_program/agriculture_natural_resources/beemap1.pdf)

### **Black bears versus honeybees in Kentucky**

As you have probably read in the newspapers, or may have experienced first-hand, we have a new, bigger pest in our hives in Kentucky these days – black bears! Not only have we seen an increase, a big increase, in the number of Kentucky counties reporting black bear sightings, but several Eastern Kentucky counties (Pike, Letcher, Harlan, and Bell) now are thought to have resident bears. Resident bears means that the bears are there year round and that reproducing females are present in those counties. In these Eastern Kentucky counties, sightings of females with cubs in the summer have become common. In addition to these four counties, 37 additional counties in Eastern Kentucky, and counties west of what is considered Eastern Kentucky, had black bear sightings in 2004. Though sightings in many of these 41 counties consisted of only one or a very few instances, this number does indicate that black bear numbers are increasing in Kentucky and that their ranges are increasing also. In 2001 there were sightings in 33 Kentucky counties, compared to last year's 41. A black bear was spotted near the Kentucky River in Clark County in a 2004 sighting, not far from Winchester. Most of these sightings are probably transient male bears. Male bears – especially young males – will travel long distances in summer. But even these transient bears will cause problems for beekeepers. It was a transient bear that destroyed a number of hives belonging to a Jackson County beekeeper several years ago. And we are seeing an increase in the number of hives destroyed by bears in the last couple of years. While I don't have any hard statistics, and I don't hear of every incident, every year the number of bear vs. beekeeper problem reports I receive goes up.

### **What can you do to prevent bear problems?**

If you live in an area where bear sightings are occurring, you may wish to take preventative actions. The best thing you can do is to keep your hives out of the woods, or away from the edge of forested areas. Bears would rather not go out into the open, so hives in open fields are safer. If you have hives in a county with resident bears, or one with a lot of sightings, or have neighbors who are having bears coming around, you may wish to install an electric fence around your beeyard. If you do experience a bear in your hives, expect the bear to come back. Like General MacArthur in the Philippines, they will return. I have a nice handout from Colorado State University on bear damage control. I can either mail it to you or e-mail it as a PDF file. This

handout goes into a lot of detail on installing bear fences. And a fence to keep bears out is not like a fence to keep cows in. Different animal, different fence – they're just both electric.

#### **Formic acid product registration approved**

As I reported in the January issue of THE BUZZ!, a Canadian Company, NOD Apiary Products, was seeking an EPA registration for Mite-Away II®, a pre-packaged, ready-to-use formic acid formulation. I'm happy to report that NOD has been granted a general registration for Mite-AwayII®, and the registration process for Kentucky is complete. Since most Kentucky beekeepers have now added honey supers to their hives, I don't expect to see much use of this product until fall.

Formic acid works as a fumigant and kills both varroa and tracheal mites. In Europe and Canada, where it has been used for some time, it is used as a liquid acid applied to a pad that is placed in the hive. However, handling of liquid formic acid is dangerous; permanent lung damage can result from the inhalation of formic acid, and burns to the skin can occur. The MiteAwayII formic acid product does not require the handling of liquid formic acid and so is a much safer product. For more information go to NOD's Web site: <http://www.miteaway.com/>.

Look for information on the use of Mite-Away II®, and where to purchase this product, in a future issue of THE BUZZ!.

#### **Another alternative varroa control agent – Api Life VAR**

Formic acid is not the only alternative control product available to beekeepers. As reported in past issues of THE BUZZ!, in 2003 Brushy Mountain Bee Farm began distribution of Api Life VAR. EPA approval for the sale and distribution of this product to Kentucky beekeepers was obtained by the Kentucky Department of Agriculture in March 2004. Api Life VAR's major ingredient is thymol, which is derived from the herb thyme. Additional ingredients are menthol and eucalyptus. Small residues of thymol in honey are not known to have adverse effects on human health, and thymol-based products such as Api Life VAR are considered safe products with regard to thymol residues in honey.

Api Life VAR is manufactured by an Italian company, Vita Ltd. It has been registered for use in honeybee hives in Europe for more than 10 years. Api Life VAR is also a fumigant and, like formic acid, kills both varroa mites and tracheal mites. For more information about Api Life VAR, go to Vita Ltd.'s Web site at <http://www.chemicalslaif.it/inglese/apicoltura.htm> I also have a brief handout about Api Life VAR which I can send you.

#### **Mite Survey**

The Department of Agricultural Economics at Louisiana State University is asking for your help in a study being conducted in cooperation with the USDA Agricultural Research Service. This study focuses on options for controlling Varroa mites and tracheal mites in the beekeeping industry. Among other strategies for dealing with these mites, scientists have been selecting for different traits in bees or lines of bees that are resistant or less susceptible to both mites. From this survey, they hope to determine: 1) how much economic damage has been caused by Varroa mites and tracheal mites; 2) how beekeepers are dealing with Varroa mites and tracheal mites; and 3) the economic value to beekeepers of these new lines of honey bees for dealing with Varroa mites and tracheal mites. To complete this online survey go to: <http://www.honeybeesurvey.com/>.

#### **More beekeeping in the news: “Another Sign of Spring: The Bees Are Back to Work”**

Seems everybody thinks bees are neat! “Another Sign of Spring: The Bees Are Back to Work” was a recent headline in the online version of the New York Times. Read the article at: <http://www.nytimes.com/2005/04/07/nyregion/07bees.html?hp>

### **Kentucky 2005 Upcoming Beekeeping Events – mark your calendars**

- June 17 & 18 (Friday & Saturday), Kentucky State Beekeepers Association Summer Conference at the KSU Farm, Mills Lane, Frankfort. Guest speaker: Dr. Clarence Collison, Entomology Professor, Mississippi State University. For schedule, see article elsewhere in this newsletter; for directions to KSU Farm, go to: [http://www.kysu.edu/land\\_grant/coop\\_extension\\_program/agriculture\\_natural\\_resources/beemap1.pdf](http://www.kysu.edu/land_grant/coop_extension_program/agriculture_natural_resources/beemap1.pdf)
- August 20 (Saturday), 1 PM. Beginner Class on Honey, Wax, and Wintering, at the KSU Farm, Mills Lane, Frankfort. Beginners will be instructed on honey and wax processing and preparing hives for winter. This is part 3 in Dr. Tom Webster's annual beginning beekeeping classes. Bring veils and protective clothing for hands-on beekeeping session in hives. No pre-registration required, free. For more information, contact Tom Webster at (502) 597-6351, email: [twebster@gwmail.kysu.edu](mailto:twebster@gwmail.kysu.edu), for directions to KSU Farm go to: [http://www.kysu.edu/land\\_grant/coop\\_extension\\_program/agriculture\\_natural\\_resources/beemap1.pdf](http://www.kysu.edu/land_grant/coop_extension_program/agriculture_natural_resources/beemap1.pdf)

### **2005 Beekeeping events in the region**

- July 7 – 9 (Thursday – Saturday), Heartland Apicultural Society 4<sup>th</sup> Annual Conference, at Edwardsville, Ill., Southern Illinois University campus. Apiculture experts and experienced beekeepers from across North America will conduct approximately 50 presentations on all aspects of beginning and advanced beekeeping. All attendees should bring veils and protective clothing for hands-on sessions. For more information on registration, lodging, speakers, and other details go to: <http://www.heartlandbees.com/>. Economical dormitory lodging and meals are available.
- August 1-5 (Monday through Friday), Eastern Apicultural Society Short Course & Conference, at Kent State University, Kent, Ohio. Many of the apiculture experts from the eastern U.S. and Canada will conduct a short course (Aug. 1-3) followed by conference presentations (Aug 3-5). All attendees should bring veils and protective clothing for hands-on sessions. For more information on registration, lodging, speakers, and other details go to: <http://www.easternapiculture.org/>

**To have THE BUZZ! sent directly to you!**

If someone has forwarded you this issue of THE BUZZ! and you would like to have THE BUZZ! sent directly to you via e-mail, send me an e-mail at [phil.craft@ky.gov](mailto:phil.craft@ky.gov) and ask to be added to my list. I organize my e-mail list by name, so make sure you sign your e-mail with first and last name. Also, if you are a Kentucky beekeeper, I'd appreciate knowing a little about you and your beekeeping activities – address, how many hives, years of beekeeping experience, and if you belong to a local beekeeping group or to the Kentucky State Beekeeping Association. I would also like your mailing address. This information helps me better serve the beekeepers of Kentucky by knowing where beekeepers are located and allows me to let you in on regional beekeeping activities, or to drop you a note if I discover your e-mail address stops working. This e-mail newsletter is not restricted to Kentucky residents. Many subscribers are from our surrounding states, especially Tennessee and Indiana. If you're from out of state, I need only your full name and home state; any other information is optional.

**Keep those smokers lit and your bee veils on!**

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