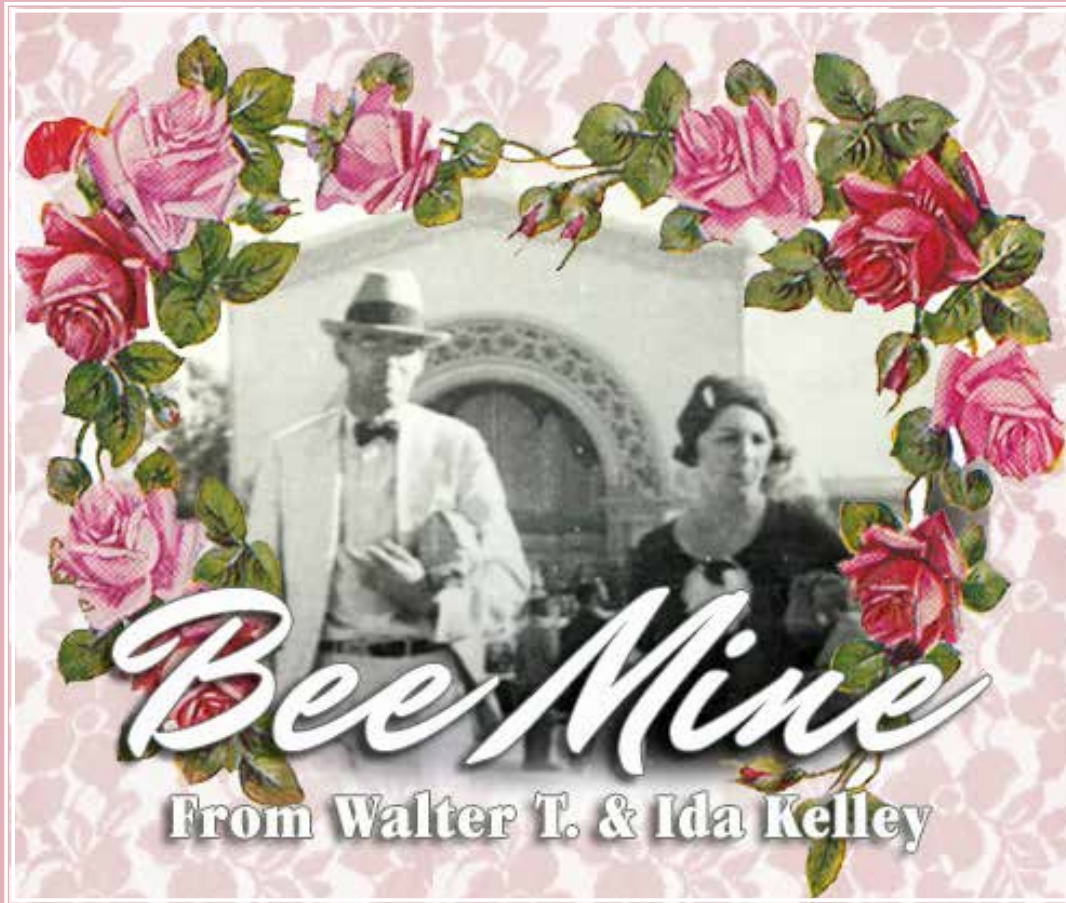




Kelley Beekeeping

SERVING THE BEEKEEPER SINCE 1924

ISSUE 44: FEBRUARY 2014



IN THIS ISSUE

The Buzz <i>by Kevin Harrub</i>	2
From the Queen's Court <i>by Melanie Kirby</i>	3
Memories of Mr. & Mrs. Kelley <i>by Maxine Edwards</i>	7
ABeeCs, FAQs & XYZs <i>by Dennis Brown</i>	9
Honeybees & Pesticides <i>by Dr. Eric Mussen</i>	10
Queens in Ball Gowns <i>by Dr. Megan Milbrath</i>	14
To Weather the WEATHER, Part III <i>by Melanie Kirby</i>	16
Pollinator Programs	23
Your Story Is Our Story: Jake Osborne	25
Sweet As Honey: Mead	27
Upcoming Events	29



The Buzz

by Kevin Harrub

It's February and much of the country is still getting seriously cold blast coming down from the north impacting a good portion of the United States. As I write this, they're predicting wintery mix in the southern states including parts of Florida. I don't remember a time when we had so many days with the temperatures reaching such low numbers. It's a good time to stay indoors, light a fire in the fireplace, grab a cup of coffee or your favorite hot drink and sit down with a good read—perhaps that's the 2014 Walter T. Kelley catalog—and begin planning for spring. You should have received yours by now. If not, you can request one online at KelleyBees.com or give us a call at 800-233-2899. We'll be glad to get one in the mail to you!

At Kelley's, we're not letting the cold weather get in the way of our planning for spring. We want to make sure that everyone is prepared for the warmer weather that is sure to come and the sudden excitement that comes with spring as our bee populations explode. How are we doing this—by offering our Beekeeping 101 and 201 classes! Beekeeping 101 is being offered on the first Saturday of each month in February and March. It's a great introduction to beginning beekeeping or a good refresher course for those that have been enjoying the sights and sounds of the apiary for a short time. Our Beekeeping 201 is offered the third Saturday in February and March and it's a great class for those that need more in depth information regarding all things beekeeping. Our Instructor is Chris Renfrow, who has commercial beekeeping and queen rearing experience. He has a heart for teaching and sharing his knowledge of the honey bee. For information on class topics please go to our website at KelleyBees.com.

Speaking of bees—be sure to get your order in today! Time is running out. We've sold out on the following weekends: 4/5, 4/12, 4/19 & 4/26. We still have some available for 5/3 and 5/10. For you newer beekeepers that want a good head start, we've sold through half of our Nucs (nucleus hive), so if you're in traveling distance of Kelley's, and would like a Nuc, now is the time to order. These will be available April 12th, earlier in the season than our remaining bee packages, but you do have to pick them up; they cannot be shipped via U.S. Postal service.

We continue this month with our celebration of the 90th year celebration by sharing Walter T. and Ida Kelley remembrances from Maxine Edwards, a long time Kelley employee. Maxine has done just about everything there is to do here at Kelley's, from woodshop to sales to inventory control. She even worked in the metal shop for a time "riding the boat," which required her to sit in a metal tank, applying pressure from the inside while another metal shop worker hammered the seam—sounds like that boat ride was a little rocky and quite loud. She currently works as our purchasing agent, making sure that we have all the necessary materials for manufacturing and any products that we purchase for resale. Maxine's story is on page 7 right after Melanie's editorial. Don't miss her *Reflections of Yester Year* and all the other sweet morsels in this, the Valentine edition of Kelley Beekeeping.

For those of us that are weary of winter, spring IS on the way!

Bee loved, Kevin Harrub,
Sales and Purchasing Director, Walter T. Kelley Company
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From the Queen's Court

Bee Mine

by Melanie Kirby

We are into the second month of this New Year and LOVE is in the air. Bees are indeed a part of love's chemistry—zipping and zooming in the air following floral perfumes and spreading pollen to and fro creating life. February is the starting month of many things love and bee. In addition to helping designate February 14th as a day of appreciation and affection, St. Valentine was also deemed as a patron saint of beekeepers.



Feb. 14 celebrates St. Valentine, patron saint of beekeepers

The sweet fragrance of nectar and of the honey that comes from it, has long been recognized as an embodiment of love's chemistry; capturing the language of flowers in the collection of nectars and pollens and their metamorphosis into honey. This chemistry is what makes the world continue to go 'round. Chemistry has the ability to attract and repel as a condition of reproduction and of survival.

These attractions and repulsions are what constitute the cycles of life and remind me of how I fell in love....

Close to a decade ago, on a sultry February day in the zesty orange belt of Florida, bees introduced a younger me to the beekeeper who would become my husband. I had just arrived at a bee farm about 30 miles inland from Orlando where I had secured work for the season at a migratory commercial operation. As I walked around the property looking for the head honcho, I caught whiffs of smoke and turned my attention in the direction of its source where I caught sight of a couple of gents in veils in the thick of the home apiary reviewing breeders for grafting queen bees. I cautiously walked up so as not to surprise them. They turned when I approached and one of them caught my eye—a smiling gent with sparkling green eyes. I thought to myself, "If that's the boss, then I'm sure we'll get along fine—a nice smile must



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Queen's Court *continued*

mean a nice personality.” I very quickly learned a few minutes later, that he wasn’t the boss as I entered the grafting shack and met the head honcho who grumbled about the interruption.

But as chemistry would have it, the very next day when at the burn pile where old decrepit bee boxes and worn out frames met their fiery maker, I had the chance to talk with the green-eyed beekeeper. I asked him if he drank wine because I had brought a case of the finest high desert wines from the American southwest. He said he did—though I found out later that he didn’t drink much but only said yes so I would accept his dinner invitation. He seemed gentle and so I suspected that having one meal with him would pose no harm.

The first night we had dinner together, we took his canoe out onto the lake and listened to the osprey squawk and the snap of alligators hunting their prey. We talked about some of our favorite books and authors and, of course, about bees and beekeeping. Our conversation carried on late into the evening and I left dinner with a promise that we’d have to continue the conversation another time—at which point he said, “Well, how about dinner tomorrow evening?” And as fate would have it, we have had dinner every evening since then, sometimes out in the bee yard as we deliver hives for pollination, or enroute to placing mating nucs into position.

Today, we have two beautiful children together and a small bee farm nestled in the challenging yet picturesque landscape of the southern Rocky Mountains. Though some years aren’t as sweet as others as we adapt and cope with weather fluctuations and changing circumstances, we remember fondly how and where we met and give thanks to the bees for the sweet years that have only come about by their bringing us together. We celebrate our anniversary on Valentine’s Day as beekeepers since we met on that early February day close to a decade ago.

We don’t “go out on a date” at a fancy restaurant. Instead, we go to the bee yards together and check the weight on our overwintering hives. If the girls are still heavy, we pat each other on the back. And if they are starting to feel light, we begin counting down how many more days until it warms up and we can get some stored honey to them and begin feeding. Either way, we both relish the time in the bee yard and acknowledge just how lucky we are to have found the bees and each other.

The bees most assuredly are beginning to smell love in the air as well this month...for if they are in



Hearts and honeycombs are a good combination.

Queen's Court *continued*

the southern tier of the United States, the increasing sunlight is waking up the first buds and the first blossoms of spring will soon be popping. According to Merriam-Webster dictionary, they have in seven words no less, masterly defined love as “a feeling of strong or constant affection.” And since bees are “affected” strongly by flowers, I would have to surmise that bees love flowers.

Bees respond to the chemistry of flowers because of this strong and constant affection...following the intoxicating perfumes of nectaries begging to be visited and pollen anthers drooping heavily over with their grains of memory waiting to be transferred to stamens perched above neighboring nectaries. It is this chemistry, the spark of “love” ignited, that has bees playing cupid ensuring that pollination, and thus reproduction, occurs.

For those in California, the almonds will soon be in bloom. Bees from all over the nation have descended into the central valley with their keepers to visit mile upon mile of almond orchards in bloom. That constant affection will pollinate over 3/4 of a million acres of almonds.

Pollination is, indeed, an act of love. Beekeepers providing pollination services with their bees are helping to grow food—and food feeds the world, providing nourishment for the body that will allow individuals and communities to flourish. It is this nourishment, which allows everyone, as distinct peoples and cultures, to love back. May we love the bees back by planting more bee friendly forage for them and in turn, may they prosper. For when they prosper, we, as their stewards, are invited to share in their triumphs and to taste the sweetness of their affection, season after season. For it is because of the bees and their constant affection for the flowers, and it is because of the beekeepers and their constant affection for their bees—that the world is nourished...love does keep us nourished.

As my husband and I complete another year together, we nourish our union both as a couple and as beekeeping partners by making our yearly initial batches of mead. We get to taste honey's captured chemistry of love in its new form as honey wine. Making new batches each February, we leave it to cure all year so that when we celebrate our anniversary next February, we have our own sweet bubbly with which to toast. We look forward to uncorking a few of our mead varietals, allowing the liquid to swirl in the glass releasing the bubbly sweet scents of captured flower essences that slowly creep up the cup and daintily waft out of our goblets, filling our nostrils with delightful perfumes as the savory ambrosia slowly travels down our throats leaving us smelling and tasting the love in the air (see *Sweet as Honey* for delectable mead recipes).

February for me, is not only a month to appreciate the many wonderful people and beekeepers that I have met and get to interact with; but it is also a time for me to appreciate the bees who allow me to keep and base my livelihood on working with them. As I remember fondly all those years ago, standing at the burn pile in the bee yard, not knowing that I was meeting the beekeeper who would become the father to my children, I have to admit that I love the bees and all the people and experiences that

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Queen's Court *continued*

they have brought my way. For without them, February, nor the rest of the year, wouldn't be as sweet.

This issue of **Kelley Beekeeping** online newsletter has some unique and interesting contributions. We've got the final installment in the *To Weather THE WEATHER* series which focuses on recommended management stratagems given the seasonal forecast. We also have articles on *Overwintering Hives in China*, by Dr. Meghan Milbraith, where they encourage broodless periods for queens by dressing them in skirts and the first installment on beekeeping chemistry, which shares information on the chemistry of flowers and pesticides and how they affect pollination, foraging, nutrition, and bee physiology by Dr. Eric Mussen.

I invite those who love bees and beekeeping and who are eager and willing to share their diverse experiences to consider contributing articles to this newsletter. **Kelley Beekeeping** loves beekeepers and has for the past 90 years! All are welcome to be a part of the **Kelley Nation**—for together we can better support each other, the bees, and our future generations of beekeepers for another 90 years plus! A friendly reminder, since **Kelley Beekeeping** loves their readers, and in order to ascertain what our readers prefer, I hope you will consider clicking on the survey link: <https://survey.zohopublic.com/zs/MQBfLQ> and share your thoughts and suggestions with us as we take **Kelley Beekeeping** online newsletter into this 2014 bee season. We'll keep the survey up through April. And like bees' attraction to flowers, so am I as editor of **Kelley Beekeeping** online newsletter to you, our readers, striving to be yours—won't you please *bee mine*?



Mead—honey's captured chemistry of love.

Melanie has been keeping bees professionally for the past 17 years. She and her husband reside in the mountains of northern New Mexico where they breed survivor stock queenbees, produce exquisite bee products, and conduct living laboratory based research. She can be reached at Editor@KelleyBees.com.



Reflections of Yester Year

Memories of Mr. & Mrs. Kelley

by Maxine Edwards

IN CELEBRATION OF WALTER T. KELLEY COMPANY'S ACHIEVING ITS 90TH ANNIVERSARY THIS YEAR, PERIODICALLY THROUGHOUT THIS 2014 YEAR WE'LL SHARE HISTORICAL RECOUNTS OF SOME OF THE MORE MEMORABLE AND INTERESTING STORIES THAT OCCURRED THROUGHOUT WTK'S 90 YEARS OF PROVIDING PROMPT, COURTEOUS AND ACCURATE SERVICE TO THEIR CLIENTELE.



The first time I met Walter T. Kelley was on a Monday in the early 70s when I walked into the office to apply for a job. I ended up being interviewed by Mr. Kelley and Doris, the office manager and was asked to demonstrate my typing skills. He said that they would call me later. They did. They called me on Wednesday to report to work on the following Monday. That was 40+ years ago.

Mrs. Kelley worked in the office for the first several years I worked there. I'll never forget the training sessions she had with me every day when I first began working. I was required to learn all the products and their numbers in the company catalog. I did. The Kelley's main goals were to provide prompt, courteous and accurate service to all their customers/beekeepers. These attitudes were expected of all their employees.

There are so many good memories of Mr. Kelley. He was a plain but kind and a gentle man. He always wore khaki pants and shirts. I only saw him in a suit one time when he and Mrs. Kelley were going to a funeral. He never seemed to be in a hurry but he knew what was happening in all the buildings. He went to each building daily to check on the workers, their progress and any equipment problems or materials needed. He was also a very talented, intelligent and observant man. Many of our pieces of equipment & tools were designed by him and are still in use today.



Mr. Kelley working a hive.

Reflections of Yester Year *continued*

Along with the great memories of Mr. Kelley, there are unusual ones as well. There is one I especially will never forget. Mr. Kelley had bee farms in Louisiana and went there frequently, especially in the early spring and summer. Once while he was on one of these trips, all of us in the office decided that his desk needed to be cleaned. He always kept his things scattered and cluttered on his desk.

I cleaned and polished it and neatly arranged his materials, being very careful not to lose anything. It looked great! When Mr. Kelley returned from his trip he walked straight over to his desk. He stood there for a minute looking at this desk and then said quietly, "who cleaned my desk and made such a mess of everything?" Doris quickly spoke up and said, "Maxine." Mr. Kelley never raised his voice or sounded angry, he just said, "I'll never be able to find another thing." The incident was never mentioned again.

"He never seemed to be in a hurry but he knew what was happening in all the buildings."

I, along with many others who worked at the Kelley Company learned to love him and Mrs. Kelley. I feel I am privileged to have worked for him for 15 years. Mr. & Mrs. Kelley had no children so they left the estate, The Kelley Company, to Grayson County's only hospital, presently called The Twin Lakes Regional Medical Center. However, the company was to continue to operate for 20 years for the benefit of the company's employees. Those 20 years have passed and several of us are still employed there because of the wonderful couple, Walter and Ida Kelley.

Maxine Edwards is Purchasing Agent for Walter T. Kelley and has been a longtime employee of the company.

You Can Save Money When You Pre-Order! Walter T. Kelley attends many beekeeping events throughout the year. Help insure that we bring exactly what you need and PAY NO SALES TAX (excludes Kentucky locations) when you pre-order for the event that we're attending. Please go to our website www.kelleybees.com for our calendar - we'd love to help you save money!

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ABeeCs, FAQs & XYZs

by Dennis Brown

WE'VE GOT A LOT OF CONTENT IN THIS PUBLICATION SO WE'RE KEEPING OUR QUESTION AND ANSWER SECTION SHORT AND SWEET THIS MONTH. AS A PRELUDE TO MORE SPRING MANAGEMENT QUESTIONS, WE'D LIKE TO HIGHLIGHT DENNIS BROWN'S CONTRIBUTION OF FEBRUARY APIARY AND EQUIPMENT PREP SINCE THERE'S NO BETTER TIME LIKE WINTER TO PREPARE! DENNIS HAS BEEN CONTRIBUTING TO KELLEY'S NEWSLETTER FOR QUITE SOME TIME AND WE ARE GLAD TO INCLUDE HIS WRITINGS IN THIS PUBLICATION. DENNIS HAS MANY YEARS OF BEEKEEPING EXPERIENCE NOTCHED ON HIS HIVE TOOL—MAKING HIM A GOOD CANDIDATE TO SPEARHEAD OUR QUESTION AND ANSWER COLUMNS ALONG WITH CHRIS RENFROW, WHO IS THE KELLEY'S BEEKEEPING 101 AND 201 INSTRUCTOR. CHRIS WILL BEGIN CONTRIBUTING NEXT MONTH AND WE'RE LOOKING FORWARD TO SHARING BOTH HIS AND DENNIS' SAGE ADVICE WITH ALL OF YOU KELLEY BEEKEEPING READERS.

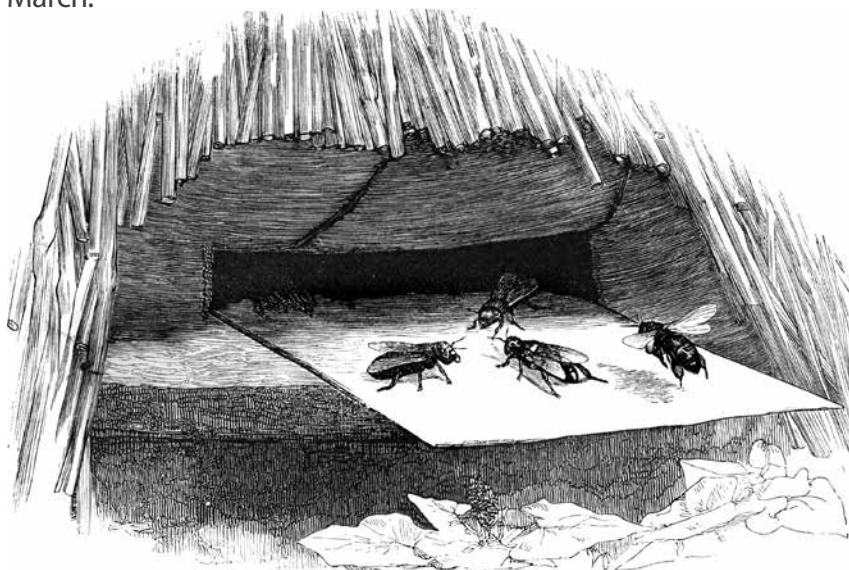
Hello Everyone,

February is a busy month here at Lone Star Farms in Bryan, Texas—www.lonestarfarms.net. This is the month that I put together all that equipment I ordered last month. It is time consuming to put together several boxes, frames, tops and bottoms. Then, when you finish all that, you still have to get the equipment painted.

By working with that good plan I made in January, I am able to have all the parts I need to complete my February work load. I don't have to re-order anything which would only slow the process down.

I believe in keeping my bee yard in good order, so February is a good time to perform that task. I make sure that all the hives are sitting level on their stands, and that the grass and bushes are cut away from the hives. I like to have plenty of work space around each hive. The bees will need unobstructed access into their hive entrance when the nectar sources become available to them.

February is a good time to inspect all of my feeders to make sure they are clean, in good working order, and ready to go, in case they are needed when I perform my first hive inspection around the first of March.



The start of the bee season will be exploding here in Texas by the first of March, and if you have a passion for beekeeping like I do even after 50 years, you know how hard it is to contain your excitement.

Love and enjoy your bees.

Dennis Brown is the author of "Beekeeping: A Personal Journey" and "Beekeeping: Questions and Answers," both of which are sold here at Walter T. Kelley Bee Supply.

Bee Health

Honeybees & Pesticides

by Dr. Eric Mussen

THE FOLLOWING ARTICLE BY DR. ERIC MUSSEN WILL BE THE FIRST IN A SERIES OF ARTICLES THAT KELLEY BEEKEEPING WILL BE SHARING ON PESTICIDE EFFECTS ON BEE AND HUMAN HEALTH AND POSITIVE PRACTICES FOR PROMOTING NUTRITIONAL HABITAT AND SUSTAINABLE MANAGEMENT AS THE FOUNDATION FOR HEALTHY POLLINATOR PRESERVATION.



photo: Kathy Keatley-Garley

Honey bees have been exposed to bee-toxic chemicals probably since the beginning of their existence. Early on, those toxins were naturally occurring, plant-protective compounds secreted in nectars, pollens, and resins or by microbes working in their environments. Over time, the bees worked out their differences with nature and have survived until today. Once humans truly began to impact the environment, called by some “the beginning of the anthropocene,” honey bees have had to deal with human-applied compounds, many of which are quite toxic to honey bees. Toxins from *Nicotiana tobacum* (nicotine), *Chrysanthemum* flower heads (pyrethrum, a mixture of pyrethrins), the Fabaceae family, such as jicama (rotenone), a Mexican lily, *Schoenocaulon officinale* (sabadilla), and the Asian *Azadirachta indica* (neem) were used centuries ago to eliminate pest problems and some are still being used today in organic farming.

Human-synthesized chemicals tend to be more toxic to the pests and to non-target animals than many of the natural compounds. Beginning with salts of heavy metals then evolving into organic compounds, a succession of types of chemistries has replaced previous products, often due to their negative impacts on the environment and the ability of the target pests to develop resistance. Following World War II, chemicals used for gas warfare were re-formulated to be used in pesticide applications against arthropod pests. Chlorinated hydrocarbons were followed by organophosphates, carbamates, pyrethroids and neonicotinoids. Most of those products targeted the nervous system in one way or another. Non-targets were susceptible, too.

Chemists also found targets in other biological pathways of target pests. Living organisms have to respire—utilize oxygen as an energy source. Respiration is a favorite target for non-arthropod pest organisms, such as fungi, but bees need to respire, too. Chemicals are synthesized that mimic the effects of insect hormones. These include juvenile hormone mimics that keep the insect in its larva stage until it dies, enzyme analogs that block a metabolic pathway vital to the growth of the insect, and chitinase inhibitors that prevent the manufacture of chitin, the basic building block of insect exoskeletons.

Consequences of contact with these pesticides in the field vary. Honey bee exposure to the chlorinated hydrocarbons, organophosphates, and carbamates often resulted in loss of most of the foraging population. Since the poisoning was relatively slow, many foragers die in piles inside and around the hive, but not before contaminating the pollen supply. Scientists found that dead and dying bees,

Bee Health *continued*

and stored pollen, contain residues in parts per million (ppm). Newly emerging bees consuming the contaminated pollen were likely to be seen dead and dying on the ground in front of the hives for up to a month following the poisoning.

The change to pyrethroids (analogs of pyrethrins) altered observations at the hive. Often very few bees were returning to die at the hive. Many simply flew off and could not return. Before dying, however, some did manage to bring back contaminated pollen. At sublethal doses, the bees persisted quite well following exposure. However, during the winter in colder climates, the clusters died off, from the outside in. Honey bees have a detoxification system that works relatively well on low doses of pyrethroids, as long as the bees maintain a high enough body temperature. During the winter, bees on the outside of the cluster cool down to around 45 degrees Fahrenheit before working their way back into the warmer, central portion of the cluster. At the cooler temperature their detoxification system cannot keep up and the bees die.

Displacement of many of the older chemistries began in 1990 when the first neonicotinoid (nicotine analog), imidacloprid, came onto the market. It appeared to be a blessing. When applied as a spray to the plant, or as a root treatment either injected, drenched, or seed-treated into the soil, the toxin moved systemically throughout the plants but did not disperse all over the environment. Generally, the toxin killed sucking and chewing arthropods that fed on the treated plants. Also, the neonicotinoids were designed specifically to antagonize the neonicotinic receptors of nerve cells of invertebrates but not to interfere with similar receptors of vertebrates. This made the products much safer for mammals, birds, fish, reptiles, amphibians, etc.

Preliminary testing determined that the neonicotinoids did move into the nectar and pollens of treated plants. However, agricultural-treatment doses usually only contaminated those bee foods at levels around 4–10 parts per billion (ppb), while the lethal dose by ingestion of an adult honey bee averaged 192 ppb. Subsequent laboratory studies determined that the neonicotinoids showed surprisingly strong effects on the nervous system of honey bees at very low exposure levels.

Although honey bees were stimulated, physiologically, to begin detoxifying and eliminating the parent compound from their bodies in a matter of hours, the major breakdown products still proved quite toxic. Behavior changes were easy to measure in laboratory studies. However, detrimental effects to



Nicotiana tabacum or tobacco in bloom.

Bee Health *continued*

colonies could not be documented in field studies in which colonies of bees were fed sublethal doses of imidacloprid in syrup for weeks. Current research shows that some aspects of honey bee health and activities in the hive are affected by exposure to very low levels of neonicotinoids, but neither colony death nor colony collapse disorder can be attributed to these chemicals.

Neonicotinoid products are registered for dose uses well above the agricultural field doses when they are used on landscapes, trees, and nursery plants. In some cases, the amount of imidacloprid in the nectar of treated Eucalyptus trees has exceeded 500 ppb and many suburban beekeepers have



Common pesticides containing neonicotinoids. Photo courtesy of oregonsustainablebeekeepers.org.

reported bees dying around their hives. Analyses of some of those dead and dying bee samples have revealed surprisingly high levels of neonicotinoid residues.

The current thinking about the impact of pesticides on honey bees is that most exposures of honey bees to pesticide residues come from contaminated hive products, basically contaminated stored pollen. The contamination comes from two basic sources: residues of chemicals used to reduce mite populations and residues of pesticides used in the bees' foraging environment. Practically all the pesticides are lipophilic—they blend well with hydrocarbons, oils, and waxes.

Beeswax and the exocuticle of honey bees contain those materials. Often pollen grains also have lipids on their surfaces, making them excellent conveyors of pesticides. Once in the hive, the pollen grains and beeswax can swap residues back and forth, so most of the stored pollen is contaminated, whether it started residue-free or not. The only good thing about this is that honey is lipophobic ("oil

Bee Health *continued*

doesn't mix with water"), so regardless of where it is stored, it rarely ever picks up detectable levels of pesticides.

Effects of exposures to stored pollen levels of residues usually are not readily observable. Those exposures do, however, have physiological impacts on the bees. We can now detect changes at the molecular level that, until recently, escaped us. We can determine if genes have been up- or down-regulated. We can determine if immune system products are produced similarly, following bacterial challenge, in control bees and bees treated with very small doses of pesticides. And, indeed, exposures to field-level doses of one neonicotinoid and one fungicide, including pollen contaminated during a normal field application, left the dosed adult honey bees more susceptible to *Nosema ceranae*.

There is no reason to believe that those two chemicals are unique in their effects on honey bees. So, exposure to any of the approximately 150 different chemical residues, which have been found to date in beeswax, stored pollen and adult honey bee samples across the country, is likely to impact your bees negatively. Air pollutants are likely to cause similar problems. Thus, honey bees that do not live on a diet of mixed, clean pollens, and live in a hive that contains residues of mite control and other pesticide products, are not at all likely to be healthy and vigorous. In many cases, they are lucky to be alive.

Eric is the Extension Apiculturist for the University of California, based in the Entomology Department of the Davis campus. He has published a bimonthly newsletter for 36 years, and also has topical articles on important aspects of beekeeping, called Bee Briefs, on his webpage http://entomology.ucdavis.edu/Faculty/Eric_C_Mussen/Apiculture_Newsletter/. He is founder and member of several associations and societies.

The following link is for an interview podcast from *The Organic View* with Randy Oliver of California (www.scientificbeekeeping.com) and Walter Haefeker of Germany. The podcast is lengthy, but those interested in following the issue will find it very informative. Scroll down about half way for the podcast. <http://www.theorganicview.com/environment/a-discussion-about-neonicotinoids-and-bee-losses/>.

Though the situation appears quite grave, especially as we begin to recognize the synergistic interactions and relationships between bees, forage, environment and stewardship practices and the lack of control over so many variables, it should be equally recognized that through practical applications of sustainability, we could see some positive advances made for promoting and preserving bee and pollinator health. In the next few months, Kelley Beekeeping will share additional articles- each with their own analysis and perspectives on what the status is of bee health, particular concerns and issues, as well as practical recommendations from beekeepers.



Bee Science

Queens in Ball Gowns—How Chinese Beekeepers Prep Their Hives for the Winter Ball

by Dr. Meghan Milbrath

Winter is the most difficult time for bees in northern states, like where I live in Michigan. Beekeepers here spend hours discussing wrapping, feeding, and insulation to try lessening winter losses. The United States is not the only place where beekeepers face a long daunting winter, however, and beekeepers all over the world have developed techniques to cut down on the damage done by the cold season. How do beekeepers overwinter bees in cold climates outside the United States?



Mountain regions in China experience severe winters, and beekeepers use different management strategies to help colonies survive until spring. Beekeepers there have a guide to show them how bees survive in their climate. The guide is the native Eastern Honey Bee, *Apis ceranae*, which has had many, many years to adapt to surviving in that region. Over time, the life of the colony has become timed to the environment—the colony can build up (and shut down) at the best times in the season to ensure survival.

The Western Honey Bee (*Apis mellifera*), which has been brought in for honey production, doesn't have this impeccable timing of being adapted to different regions and different climates. Some beekeepers in China that manage both types of bees have noticed that the Eastern Honey Bee queens stop laying eggs in the fall much sooner than their Western Honey Bee queens. By stopping egg laying, the cluster does not have to keep brood warm as temperatures dip low at night, and does not have to use as much stored food to meet the demand of growing brood. Using the timing of the native bee as a guide, beekeepers stop the egg laying of the queens in the Western Honey Bee hives to match the timing of the Eastern Honey Bees, even though bees would naturally lay eggs into much later in the season.



Plastic skirts for queens.

Two main techniques are used to stop egg production while

Bee Science *continued*

maintaining a queen right colony. First, beekeepers can use a special type of cage that has openings big enough for workers to pass in and out, but still trapping the queen. The bees can still feed the queen and can spread her pheromone, but she is not free to lay eggs. The cage only works in small colonies, where the cluster is stationary: the cage wouldn't work in a towering wintered hive where the cluster could move far away in search of more food.

For colonies where the queen needs to move, beekeepers sometimes use a plastic skirt on the queen.

In the fall, the beekeeper fits a tiny hoop skirt around her abdomen. The queen can walk around and eat as normal, but her now encased abdomen is too large to fit into the cells to deposit eggs. In the spring, the skirt is (carefully) removed, and the queen is free to resume production. These same two methods are used to break the brood cycle in the summer to halt varroa populations as well, and are cheap and simple enough that beekeepers with many colonies can easily employ them.

I was able to bring some wide spaced cages and little queen skirts home from China, and I'm hoping to try them next year on some of my colonies that may not have their timing sorted out to Michigan yet. While I don't have any native bees to match my timing, I do have some bees that survive well in my area that stop laying eggs earlier than other colonies. After a fall like this past one, I am excited about a strategy that results in the bees using fewer stored resources in the late fall. It will be a while before I'll know if these methods will actually increase my winter survival rates but I'll need the time to practice putting little plastic hoop skirts on drones before I try them on my queens.



Wide spaced cage for queens.



Dr. Meghan Milbrath got her first bee hive in 1993, and has been hooked on bees since. Her background is in infectious disease epidemiology, which she had the opportunity to apply to honeybee health in 2012, working as a research associate in the Entomology Department at Michigan State University. She currently runs a small queen rearing operation in Stockbridge, MI. She can be reached at meghanom@umich.edu

Bee Thinking About *Beekeeping with the Seasons* **To Weather THE WEATHER Part III:** **Regional Forecast Bee Management Stratagems**

by **Melanie Kirby**

*“Climate is what we expect,
weather is what we get.”*

—Mark Twain

This is the final installment in a three part series on weather as it affects bees and their keepers. The first installment discussed the phenomenon of weather and forecasting (see *Modern Beekeeping* December 2013 issue). The second part shared information on the winter forecast for these upcoming months and what may be expected regionally for this 2014 bee season (*Kelley Beekeeping* January 2014 issue). This third and final installment will conclude the series with a focus on what management stratagems are recommended to better support one's hives and apiaries, both in short and long range management for this year.



Good weather + bees = pollination success!

Though forecasting is a prediction of what will happen in the future, it is after looking at the information that is available, that one discerns what may be anticipated. So, it is not a complete shot in the dark, but rather, a culmination of data whose puzzle pieces are mapped—connecting circumstances over time to best anticipate a condition. That is exactly what this article has aimed to do: to review the information available, attempt to discern what our bees will be facing, and how we—as their stewards, can better prepare and react to their trials and promote their tribulations.

Through all environments, hive behavior and prosperity are determinate upon many circumstances beyond control. Topography, development, industrial and societal impactions dictate where and what our bees are exposed to. The cyclical nature of growth and recession of hive super organisms is directly linked to available forage, and thus, nutrition. Pollinators' diet, and their nourishment or lack thereof, is integral to individual bee health and hive immunity. And as we have observed, pollinator diets are extracted from their available forage and forage is only cultivated and offers sustenance when weather and stewardship has been conducive to its growth.

The reactor is weather. And it serves as the ball in this game—moving around and fluctuating; rarely

To Weather **THE WEATHER** *continued*

stable for long. Its mysterious gravity as a natural phenomenon is puzzling and confusing. But, routine observation gathers data and, once analyzed, can assist in determining what steps may or may not be needed throughout the season to promote the bees and their needs. It is this guessing game that attracts many of us. I often share that the mystery of the hive is the allure. And, it is the mystery of the weather affecting the hive that makes the super-organism mysterious and sparks inquisitive review. I know of a beekeeper who calls beekeeping a perpetual game of chess—one trying to anticipate what will develop and thus, what course of action to take to stay in the game. He often says, “We have to think as many moves in advance.” And I agree. The more maneuvers my colony management can anticipate, the less likely I will be left behind wondering all the what-ifs...

To Weather: to endure or sustain

To endure or sustain are forms of stamina that are highly prized in the beekeeping world. Whether you are a new beekeeper, developing or a seasoned professional, it is the stamina of remaining flexible, quick, motivated and determined that maintains the stewardship between the keepers and kept. This stamina requires one thing; and that is to remain observant: observing the location of the sun rise and set in relation to one’s apiary so that hives are placed accordingly; observing what is in bloom and when; observing that there are ants getting near or other predators invading the apiary; observing that the shade is too much, or too little; or, observing and deciding that when thunderstorms roll in, maybe today isn’t the day to revise your hives. Observation is the key to many things as we journey through life; and, the stamina required is constant.

The constant beekeeper—formidable yet daring, wants to understand his bees; and, the core is “his.” When we begin to take ownership, we recognize that we have a responsibility to our bees, and to our surrounding communities; our management of our hives will be to the utmost of our abilities putting safety first, kindness second, and resources shared third. The overall activity of the bees and their keepers plays a huge role in the success and sustainability of bee colonies. Managing variables with minimal stress on the bees and on the keepers is what is strived for; but through keen observation, we find that stress also shapes individual bee health and overall hive immunity. Stress also is what keeps beekeepers humble—hoping that what they can offer is sufficient and beneficial for the bees.

In this final installment, I will share recommendations from experienced beekeepers on potential stratagems that can be researched and implemented as the season unfolds and as beekeepers experience



A honeybee on apple blossoms.



To Weather THE WEATHER *continued*

particular weather-forage scenarios. These anticipated management stratagems are by no means conclusive. It is well known that, if you ask 3 beekeepers, you'll get more than 10 different potentials. Since beekeeping is not so much a black and white science, but is more dynamic and evolving, then perspectives will vary; but, for the most part, the proposed suggestions can be researched. And, readers who have suggestions for particular scenarios, please send them in. They'll be shared with readers in a follow up series this fall.

2014 ANNUAL WEATHER FORECAST SYNOPSIS

Condensed information gathered from various weather publications, centers and websites.

SOUTHERN TIER:

Florida—Colder winter with less rain. Hotter and drier spring. Hotter summer with more rain in the north and less in the south; warmer and rainier fall.

Southeast—Colder & drier winter. Increase in snow in mid to late Feb. Warmer spring with normal rainfall. Hotter with above normal rainfall for summer. Slightly cooler in the Fall.

Deep South—Cooler winter with lower precipitation in south. Rainier spring with snow in mid-late Feb. Hotter in the summer and drier in the fall.

Desert Southwest—Colder winter with lower than expected precipitation to the east and higher in the west. Warmer and rainier spring. Hotter summer with less rain; drier fall with higher temperatures in the east and lower in the west.

Pacific Southwest—Rainier and cooler winter. Warmer and drier spring. Warmer summer with more rain in the north, less in the south and normal temperatures.

CENTRAL TIER:

Atlantic Corridor/Appalachians—Colder and drier winter with snow in mid-late February. Warmer and drier spring. Hotter and rainier summer with a drier and warmer fall.

Ohio Valley—Colder and drier winter. Warmer and drier spring. Hotter and rainier summer and a cooler and drier fall.

Heartland—Colder winter. Warmer and drier spring. Hotter and rainier summer and a rainier fall with near normal temperatures.



A thunderstorm brews over sunflowers.

To Weather **THE WEATHER** *continued*

TX/OK—Colder winter. Warmer and rainier spring. Hotter and drier summer (drought pockets) and a drier fall.

Intermountain—Snowier winter in mid-February and early March. Drier and warmer spring. Cooler north and warmer south with normal rain for summer and cooler with near normal rain for fall.

NORTHERN TIER:

Northeast—Milder winter but colder in south with higher precipitation (early February snow; coldest temps late February). Slightly cooler spring with normal precipitation. Hotter summer with below normal precipitation and a warmer than normal fall with higher precipitation in the north and lower in the south.

Lower Lakes—Milder winter. Warmer and rainier spring. Hotter summer with less rain and a warmer and drier fall (though the west will be wetter and cooler).

Upper Midwest—Higher temperatures in the east and lower in the west with overall more precipitation for winter (early February snow). Warmer spring with normal precipitation. Hotter and drier summer (drought) and a warmer and drier fall.

High Plains—Colder north and milder south for winter. Warmer and drier spring. Hotter summer with more rainfall in north and less in south and a warmer Sept and cooler October for fall (more rain in south and less in north).

Pacific Northwest—Snowier winter with normal rain and lower temperatures in the north and higher in the south. Warmer and drier spring. Warmer summer with more rain in the north and less in the south. Warmer and rainier fall.



Smudge pots are lit in apple orchards when temperatures dip.

*Melanie serves as the editor of this online newsletter:
Kelley Beekeeping She can be reached at Editor@KelleyBees.com*

To Weather **THE WEATHER** *continued*

WEATHER CONDITIONS	RECOMMENDATIONS:
Dry Spring	Starting the season off with overly dry conditions is perplexing; especially if following a drier winter. Hives brooding up may run out of food stores before a substantial spring bloom manifests. If they run out completely, they may resort to cannibalism and begin starving, thus impacting their overall population. Additional situations which can arise as the seasons change such as nosema- a form of dysentery. STRATAGEMS: Like other livestock, bees may need to be moved to an area with more available forage or be offered supplemental feed. For spring feeding, basic recipes call for 1:1 by weight (8 pounds pure cane sugar to 1 gallon of water). Herbal supplements that promote bee gut flora health and/or a nosema control pharmaceutical implementation can be researched and added to supplemental feed. Screened bottoms and ports may need to be reduced or sealed off to prevent brood dehydration, keeping incubation and humidity levels easily regulated by the colony. Colony reproduction should be reconsidered until conditions are more conducive to colony growth.
Wet Spring	Starting the season with a wetter and cooler spring can inhibit bees' fly times and keep them homebound rather than foraging. And, of course, when everyone is home, they can become cramped and get swarmy. Ventilation helps curb moisture and condensation concerns and suppresses chalk brood issues. STRATAGEMS: If rainy weather is impacting flight time for foraging, then offering supplemental feed (such as fondant or candy board) may help to keep them and their developing brood fed without enticing swarming. If swarms are imminent, then make splits (with eggs: anticipated weather two weeks out being conducive for mating flights; with capped queen cells, with hopeful good flight weather in a week). Adding space for comb building is advised, which helps with buildup and prevents early swarming due to lack of space. Airflow ports or screened bottom implementation can help promote ventilation. If cold and wet, ventilation and access to food stores key.
Dry Summer	Regardless of whether spring is wet or dry, a dry summer can mean a dearth for forage indicating subsiding of comb building and population. Hitting the "summer stride" may mean that colonies will hang on, but not yield a honey crop. STRATAGEMS: If drought conditions develop, then longer term plans may necessitate moving colonies to areas with suitable forage and or routine supplemental feeding. Main considerations are whether or not there will be a flow, both of nectar and pollen available for foragers before it gets cold. If not—then recommendations include supplementation of "comprehensive" feed, carbohydrate and protein: sugar syrup & pollen patty.

To Weather **THE WEATHER** *continued*

<p>Wet Summer</p>	<p>Wet summers can lead to trickles of nectar from area resources and also substantial late summer & early fall blooms. Cyclical monsoon weather patterns in some parts of the US can spur a late swarm season. STRATAGEMS: Ensure that hives have ample space for accommodating their summer peak population as bearding may be noticed; add supers for Langstroth and Warre and remove false walls from top bar hives to expand their space. Ventilation ports and screened bottoms can be opened up; screened bottom boards will help to alleviate Varroa mite infestation as mites are hygienically groomed off of bees by other bees. Prepare to split hives if the population is high and the remainder of the season allows enough time for recuperation for overwintering. If mite counts indicate high levels, then additional varroa control methods may need to be researched. “Soft treatments” of naturally based/sourced ingredients may help to minimize toxic residues left in combs and harvested products.</p>
<p>Dry Fall</p>	<p>Dry fall weather in conjunction with shortening days entices bees to slow down their brooding. Foragers will focus on residual nectar sources and more importantly pollen resources to store for next year’s brood rearing commencement. STRATAGEMS: If available forage is marginal, then supplemental feeding of protein and fall sugar syrup should be offered (Fall recipe is 2:1 by weight=16 pounds of pure cane sugar to 1 gallon of water). In late summer and Early Autumn, colonies focus on rearing their “fat” bees; which will accompany the colony through winter and start hive tasks the following spring. These “fat” bees must have ample fat reserves (vitellogenin) to ensure that they have the “weight” and nutrition to take them through the cold months of dearth. Autumn is a critical time for the colony in that, if they haven’t established the reserves needed to carry them through winter, there is not much time left to ensure that they have what they need- especially for those areas where temperatures drop quickly and feed cannot be accessed nor digested properly.</p>
<p>Wet Fall</p>	<p>During a wet fall, pollen collection may be hindered and ventilation a concern. Late swarms, chalk brood and nosema issues could present themselves. STRATAGEMS: Offering supplemental protein may be necessary to better support the colony’s “fat” bee population needs to carry them through winter. Additional overwinter prepping recommendation includes ventilation support if not already established. Any indication of brood or disease issues should be addressed if not caught before. It is better to go into winter with one strong colony vs. two weak ones....</p>
<p>Dry Winter</p>	<p>Dry winters, especially in areas that depend on winter precipitation as a necessary component of spring bloom manifestation can be difficult on the beekeeper. It isn’t so much that the bees are foraging, but rather, that future forage may be impacted negatively/positively depending on the topography and environment. STRATAGEMS: Depending on how spring manifests, there’s not much one can do during the winter dearth if temperatures are cold. However, if temperatures are warm enough, and food reserves dwindling rapidly, then anticipate feeding as soon as weather is conducive with either candy boards or fondant. Liquid feed can be offered in areas where temperature swings are not sincere and only if temperature and moisture regulation isn’t compromised. Insulation may help (ventilation maintained).</p>

To Weather THE WEATHER *continued*

<p>Wet Winter</p>	<p>Wet winters can indicate sufficient moisture for spring blooms; however, if winter runs late, or leads to overly cool and wet springs, then several conditions could impact colony growth and production the subsequent spring. Additionally, nosema concerns could arise come spring if there haven't been any cleansing flight days or portions thereof that have occurred throughout late fall- early spring. STRATAGEMS: Winter is a difficult time to revise or amend any overwintering hive set ups in locations where there is a sincere dearth (robbing), drop in temperatures, deep snow. Main thing is to ensure that hives are well ventilated and properly insulated if needed. For locations where there is minimal dearth, continued feeding could lead to exacerbation of "tropical" disease issues, including the breeding of mites and other issues. Supplemental carbs and proteins may need to be offered where brood has built or remained constant and stores have dwindled. Anticipating movement of colonies to better foraging grounds as soon as possible may be necessary if routine feeding is anticipated.</p>
<p>Added Note*</p>	<p><i>Critical times for assessing potential variables and researching practical tactics and techniques for timely hive support and maintenance is prior to when seasons transition from one to the other.</i></p>

For whether we are intending to keep bees, pollinate, harvest honey, rear queens, or expand or down-size, all of our intentions rest on how our bees perform as they complete their seasonal cycles through the year. Though we cannot know for certain exactly what weather we can anticipate, we can observe and follow situations occurring in and around our areas and notice how they are impacting our locations and livestock. Following data, we are better able to assess and anticipate what steps we can take prior, during and after circumstantial conditions to support our livestock's needs and requirements.

As the almonds start in California and the citrus in Texas and Florida, the daylight lengthens second by second, minute by minute. The bee season is commencing. It takes a multidisciplinary approach to keep bees healthy and productive. Research and investigation of our physical surroundings on this living laboratory called planet Earth, is necessary. Although there are no hard and fast rules, some things transcend regional boundaries; if your bees are hungry—they need food. If they are cramped, they need space. If they are slow to build, they may need a smaller space or need re-queening. And, if the brood is afflicted, they may need remedy- which comes in several forms depending on the condition.

All in all, there is always recourse (affect) to circumstance (cause). A constant beekeeper has the stamina to keep eyes peeled, communication open and good records! I, for one, am hoping for more moisture this winter before spring begins, no late frost for the orchards but good moisture during spring with minimal winds. Then, for summer I am going to hope for good monsoon rains which will yield a fantastic late summer and early fall bloom with rich pollen for my bees to store.

I don't think that's asking for much. But then again, I just want my bees to be happy and healthy. The ever-optimistic farmer in me knows that it is necessary to have a little faith and hope in Mother Nature. In order to keep that flame of hope burning, it is necessary to interpret and to plan, to the best of one's abilities and thus through researched methodologies and implemented management stratagems, better support their livestock during Mother Nature's metamorphosis from season to season. As in the game of chess, we are all only a few moves from a checkmate...and I want my queen to have the best possible maneuvers ready to win.

Bee Thinking About *Beekeeping with the Seasons*

Pollinator Programs: Who, What & How You Can Help

For the next few months we will share info on various nonprofit pollinator programs. Though listed in this newsletter, **Kelley Beekeeping** does not endorse any single program over another; but rather wants to share their information so that readers can decide if they would like to learn more and help support these programs. If you have a nonprofit pollinator program that you would like to share information about, please send your submission to Editor@KelleyBees.com—subject header: nonprofit pollinator program.

The Honeybee Conservancy

The Honeybee Conservancy is a 501c3 non-profit established in 2009 in response to the bee crisis. Their mission is to raise awareness about the importance of bees and to inspire people and communities to act as stewards and advocates for bees and their natural environment. They are helping by engaging in media and educational outreach to raise awareness about the importance of bees, the challenges to their survival and the beauty of beekeeping. They are inspiring individuals and groups to build habitat corridors for bees and wildlife. They support bee research in an effort to end bee population declines. And they are partnering with schools to encourage environmental stewardship and are also partnering with and supporting other likeminded organizations. For more, visit: thehoneybeeconservancy.org



www.thehoneybeeconservancy.org

The Pollination Project

MISSION

The Pollination Project believes in the power of ordinary people to do extraordinary things. We make \$1,000 seed grants to individual change-makers every day of the year.

VALUES

The Pollination Project actively practices “compassion consciousness” and seeks to fund projects that align with this value. Compassion consciousness means that we think through and acknowledge the impact of our choices and our work: from the food we eat, to the questions we ask, to the office supplies we use, to the projects we fund and ultimately, to the institutions and systems we challenge. As Dr. Cornell West says, “Justice is what love looks like in public.” Compassion consciousness includes lifting up the oppressed, the unseen and the voiceless. Expanding compassion towards ALL life: human and nonhuman, is their mandate. For more information visit: pollinatorproject.org



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Jake Osborne, Kentucky, U.S.A.

My name is Jake Osborne and I am from Owensboro, KY. I am 25 years old and have been keeping bees for 17 years. I currently have 25 hives and also manage 15 hives at Western Kentucky University. I am currently pursuing a Masters in Agriculture at WKU. My research thesis will pertain to the effect of supplemental feeding on brood production.

When I was 8 years old, playing outside in the yard was a daily routine. Being curious, I wandered over to my neighbor's yard and discovered a handful of beehives. I remembered the first time I saw them and how interesting they were to me. Once I saw a honeybee land from flight with bright orange pollen on her leg, I was hooked.

As luck would have it, my neighbor at the time was one of the largest beekeepers in the state of Kentucky. His name was George Jones and he owned and operated Kentucky Honey Farms. George caught me looking at his hives and since then, he and I have been dear friends. That same year, a swarm of bees landed in my backyard resulting in my first hive. Over the years George taught me all he knew about keeping bees and producing honey.

In 2013, I graduated with my bachelors in horticulture from Western Kentucky University. The following fall I started to pursue a Masters in Agriculture with hopes in doing research with honeybees. In 2012, WKU, with the help of graduate John Pace, was able to obtain honey processing equipment as well as enough equipment for 25 hives. Since then we have 15 healthy colonies and plan to have more. A beekeeping club was started to teach college students about beekeeping. Students are able to utilize the hives for learning. Upon starting my master's, I was placed in charge of the WKU beehives and I also help with the bee club.

I plan to start my research this summer (2014) at the WKU farm. The research work will pertain



Jake Osborne at Western Kentucky University.

Kelley Nation

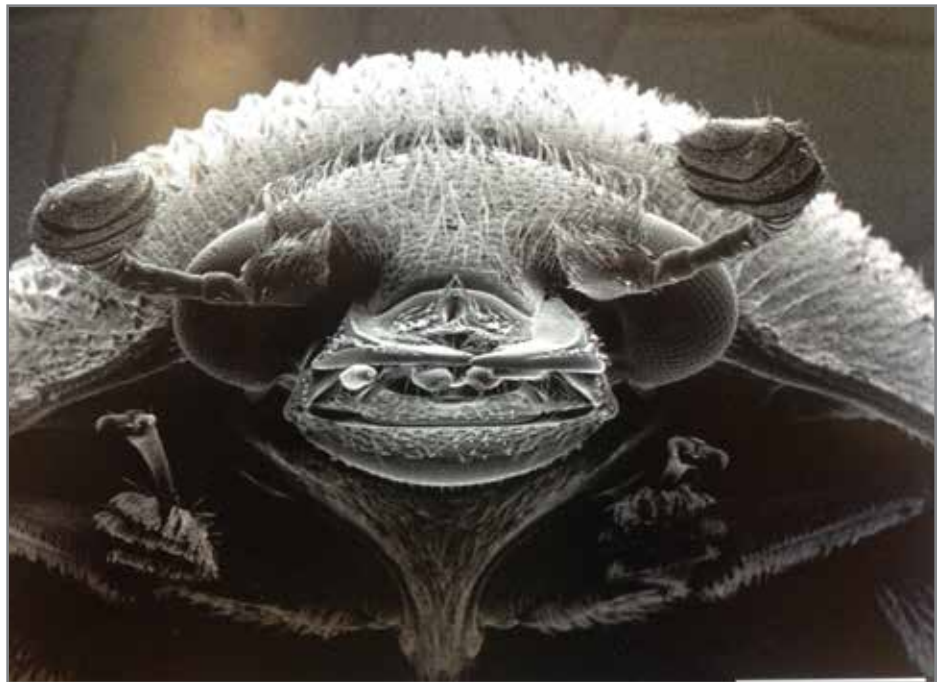
Your Story Is Our Story

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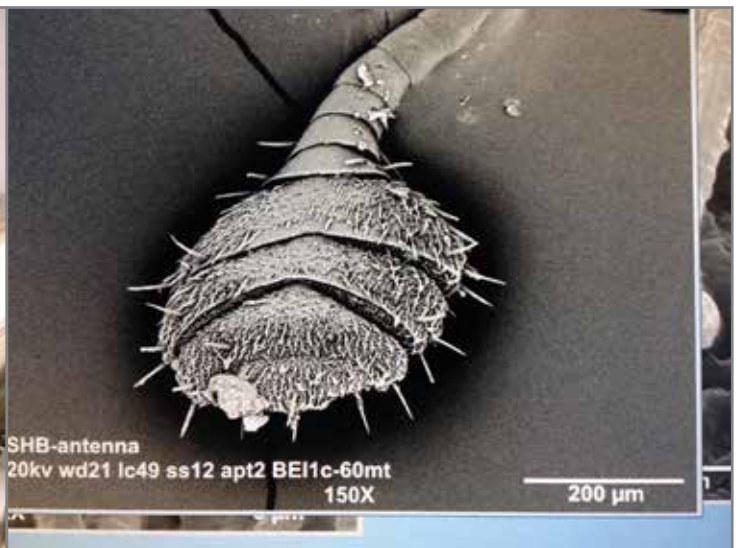
to the effects of supplemental feed in relation to the queen's brood production. This past fall semester, I completed a course in electron microscopy which deals with the use and function of Transmission and Scanning Electron Microscopes. For my work, I looked into the antennae of the Small Hive Beetle. Some pretty good pictures were obtained.

I plan on completing my master's in December of 2014. I may go on and pursue a PhD—though I am not sure where I would attend, or, if I will make a career of beekeeping. But, whatever path I choose, I am confident honeybees will be a part of my daily routine as always. Thank you to the Walter T. Kelley Company for spotlighting me this month. And good luck to everyone on their upcoming bee season.

If you are interested in sharing your story, please contact Melanie Kirby at Editor@KelleyBees.com



Electron microscope photo of the antennae of a Small Hive Beetle.



Sweet As Honey

My Chemical Romance—Mead makes one Marry...I mean Merry!

by Beatrix Royale

Despite the chemical fermentation process of some elixirs, it is mead that takes the lead as the sweetest elixir to transform the hardest of hearts into the sweetest of saps. Actually, mead takes the lead as one of the first elixirs to be made from honey—the juice of flowers, and turned into an alcoholic and bubbly remedy. Mead is created by the fermentation of honey with water. Ingredients such as spices, grains or fruits or hops can be added—defining nuanced characteristics of mead varieties. Mead can be carbonated (such as a champagne), naturally sparkling or flat. The alcoholic content of mead may range from 8%-20%+ and can be dry, semi-sweet or super sweet in flavor.



Mead transforms the hardest of hearts into the sweetest of saps.

Its first known recipes originated in Europe, Africa and Asia. Claude Lévi-Strauss makes a case for the invention of mead as a marker of the passage “from nature to culture” as mead has played an important role in the beliefs and mythology of some peoples (such as in Norse mythology; see <http://www.realbeer.com/edu/mead/giftofgods.php> for a great historical recount of mead). And we’ve all heard of the “honeymoon”—the period after nuptials when in ancient customs, the couple drank mead for a month in celebration of union’s endearing feelings of sweetness.

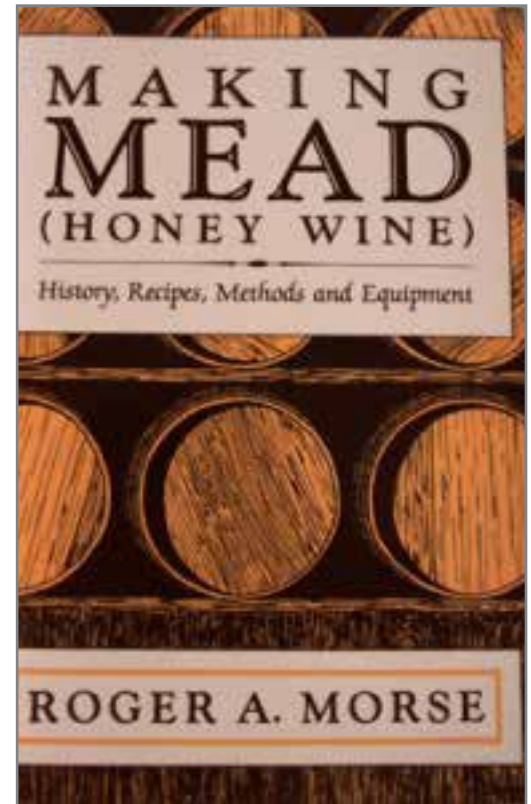
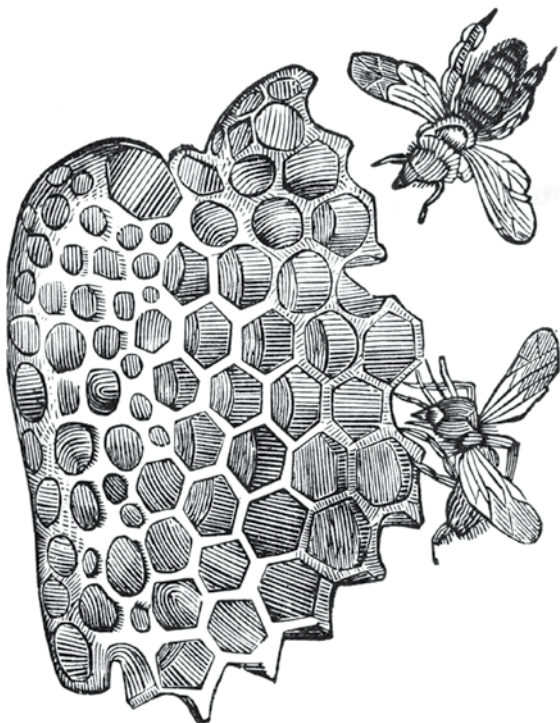
My husband made mead for many years before becoming a beekeeper himself. His recipe called for thunderstorm water for added potency. Now that he has resumed making mead, during the summer, you can see us dashing out in the thunderstorms putting bowls, cups and pans out to catch the fresh mountain rain. We then pour it all into glass jugs ready for when the recipe comes together. We are delightfully surprised when it comes time to uncork and savor.

Sometimes honey-wine and mead are used interchangeably. However, depending on what the ingredients are that added to the fermentation, some cultures differentiate between the two (honey-wine signifying that honey was mixed with water and grapes; mead with hops). Historically, meads were fermented with wild yeasts and bacteria residing on the skins of the fruit or within the honey itself. Wild yeasts are not consistent so some have been isolated as they preserve the flavor and aroma of honey bouquets. “Honey Jack” is a mead which has been distilled to a brandy or liqueur potency and is made by freezing a quantity of mead and straining the ice out of the liquid (freeze distillation process).

Sweet As Honey *continued*

Some producers have marketed white wine sweetened and flavored with honey after fermentation as mead, sometimes spelling it “meade.” Depending on the honey varietal (nectar source), mead flavors widely vary. Blended varieties of mead may be known by specific styles such as cyser (apple mead). Kelley offers several books and tools needed to make mead.

I have long been a fan of wine from grapes, which has wide variations. The delicacy, complexity, and poetry of a fermented fruit juice transcends not only the fruit from the vine and where the vine was grown, but captures, in a sense, the very essence of soul, the chemistry of yum. Honeys do the same thing; offering their bouquets, their captured nectars as the very souls of flowers. These souls, allowed to mix with life’s most basic entity of water, develop their own intertwined existence. Meads embody the very nature of chemistry—the mingling of spirits. The ability to concoct these minglings, takes a gift. Mead makers, brewers, and vintners—whose crafts transcend regions and allow cultures to savor earth’s gifts from the bees, I salute you, as you have tempted me to learn more about fermented honey elixirs and the chemistry of YUM.



Making Mead Model #: 670

In this book, Roger A. Morse will teach you about honey, equipment for making mead, yeasts and fermentation, recipes and formulas. A long time mead judge, Mr. Morse also discusses bottling mead, home analysis and judging mead. 127 pages.

[CLICK HERE TO ORDER](#)



UPCOMING EVENTS

February 2014

Walter T. Kelley's Beekeeping 101 Class

February 1, 2014—Clarkson, KY
Class size limited to 50.
Register now at: <http://www.kelleybees.com>

KY: 2014 South Central Beekeeping School

Hosted by Allen county Beekeepers Association
February 1, 2014—Scottsville, KY
<http://allentybees.com/>
Kelley's will be attending this event.

WI: Oneida County Beekeepers Association Beginning Beekeeping Class

February 1, 2014—Rhinelander, WI
<http://www.oneidacountybeekeepers.com/>
Contact Moria King: moria@oneidacountybeekeepers.com

CA: Robert Mondavi Wine & Food Institute: Mead Makers Workshop

February 6-8, 2014—Davis, California
Info: <http://rmi.ucdavis.edu/events>

Georgia Beekeepers Association's Spring Meeting

February 7-8, 2014—Columbus, GA
<http://www.gabeekeeping.com/meeting.html>
Kelley's will be attending this event.

Eastern Missouri Beekeepers Association Workshop

February 8, 2014: 8:00am–5:00pm
Fenton, MO
Tel: 314-669-1828
info@easternmobeekkeepers.org

NEBA Beekeeping Workshop

February 8, 2014: 7:00am–4:00pm
Pensacola, Florida
Contact: 850-476-3220
E-mail: j.taylor144@yahoo.com

New Jersey Beekeepers Association Winter Meeting

February 8, 2014—Hamilton, NJ
Contact: Curtis Crowell, 609 651-4585
Email: treasurer@njbeekeepers.org;
<http://www.njbeekeepers.org/store/>

SE Kentucky Bee School by Big South Ford Bkprs, Whitely County Bkprs & KY Dept. of Agriculture

February 8th, 2014—Stearns, KY
Contact: Greg Whitis, 606-376-2524
Email: gwhitis@uky.edu
Kelley's will be attending this event.

Western Pennsylvania Beekeeping Seminar

February 14-15, 2014
To register: <http://extension.psu.edu/beaver>
Contact: Lee Miller, 724-544-2900
Email: jlmbeeglad@gmail.com
Kelley's will be attending this event.

NY: Honey Bee Lives Organic Beekeeping Workshop

February 15, 2014—Brooklyn, New York
<http://honeybeelives.org/>

Walter T. Kelley 201 Beekeeping Class

February 15, 2014—Clarkson, KY
Class size limited to first 50 people.
<http://www.kelleybees.com>

FL: Leon County Extension Service Bee Short Course

February 22, 2014—Tallahassee, Florida
http://kalamazoobeeclub.org/images/KBS_eFlyer%202.pdf

GA: Henry Beekeepers County Short Course

February 22, 2014—McDonough, Georgia
www.Henrycountybeekeepers.org

IN: Bee School with Jerry Hayes

February 22, 2014—Indianapolis, Indiana
Contact: Mike Sieb, 317-432-5342
Email: mike@seibshoosierhoney.com
Kelley's will be attending this event.

KY: Licking River Beekeepers Association: Northeast Beekeeping School

February 22, 2014
Maysville Community & Technical College
Maysville, KY
www.lickingriverba.blogspot.com/

MI: Kalamazoo Bee Club Bee School

February 22, 2014—Kalamazoo, Michigan
www.KalamazooBeeclub.com

OH: Tri-County Beekeepers Association

February 28- March 1, 2014—Wooster, Ohio
www.TriCountyBeekeepers.org
Tel: 330-801-1309
E-mail: contactus@tricitybeekeepers.org
Kelley's will be attending this event.

2014 Organic Beekeepers Meeting

February 28- March 2, 2014
Contact Dee Lusby, 520-398-2474 evenings
<http://groups.yahoo.com/neo/groups/organicbeekeepers/info>

March 2014

Walter T. Kelley's Beekeeping 101 Class

March 1, 2014—Clarkson, KY
Class size limited to 50.
Register now at: <http://www.kelleybees.com>

KY: Audubon Beekeepers Association Beekeeping School

March 1, 2014
Henderson Co. Co-op Ext. Expo Ctr.
Henderson, KY
Kelley's will be attending this event.

FL: Ross Conrad Workshop

March 1- March 2, 2014—Caney Branch Farm
Monticello, Florida
Tel: 850-294-6162
Email: rogertwitchell@yahoo.com

We'd love to share news of your upcoming events. Please send the event name, date, website and/or contact information to me by the 10th of each month for inclusion in the following month's issue. Editor@KelleyBees.com

You can save shipping costs by meeting us at industry meetings.

We note on our website which meetings we'll be attending, and we'd love to meet you there to deliver your equipment.

UPCOMING EVENTS

March 2014 continued

Italy: 3rd World Organic Beekeeping Symposium

March 4- March 7, 2014—Bologna, Italy
<http://www.apibio.org>

72nd Annual Massachusetts Bee School

March 6, 2014 for eight weeks
Worcester, Massachusetts
Contacts: George O'Neil, gjoneil@charter.net
Norman Mercier, littleredtractor1@hotmail.com

Florida Master Beekeeper Training and Exam

March 6, 2014—St. Augustine, Florida
Contact: Jeanette Klopchin, jklopchin@ufl.edu
Tel: 904-461-4000

NC State Beekeepers Association Spring Meeting

Hosted by New Hanover County Beekeepers
at Wilmington Convention Center
March 6-8, 2014—Wilmington, NC
To view the agenda, visit <http://www.ncbeekeepers.org/spr2014.htm>
Kelley's will be attending this event.

Arkansas Beekeepers Association Spring Conference

March 7-8, 2014—Fayetteville, Arkansas
<http://arbeekeepers.org/events.html>
Kelley's will be attending this event.

7th Annual Florida Bee College with Dewey Caron, and Maryann & Jim Frazier

March 7-8, 2014—St. Augustine, Florida
http://entnemdept.ifas.ufl.edu/honeybee/extension/bee_college.shtml

MI Beekeepers Association Spring Conference

March 7-8, 2014
Kellogg Center @ Michigan State University
during ANR week on Friday
www.michiganbees.org

KY: Bluegrass Beekeepers Association Bluegrass Bee School

March 8, 2014—Kentucky State University
www.bluegrassbeekeepers.blogspot.com/
Kelley's will be attending this event.

NY: Honey Bee Lives Organic Beekeeping Workshop

March 8, 2014—Rosendale, NY
<http://honeybeelives.org/>

Kansas Honey Producers Spring Meeting with Dr. Dewey Caron

March 14-15, 2014
For info, visit www.kansashoneyproducers.org
Tel: Joli Winer at 913-856-8356

Walter T. Kelley 201 Beekeeping Class

March 15, 2014—Clarkson, KY
Class size limited to first 50 people.
<http://www.kelleybees.com>

Kentucky Green Living Fair

March 15, 2014
The Center for Rural Development,
Somerset, KY
Phone: (606) 305-5700
Email: jamie@kygreenlivingfair.com
www.kygreenlivingfair.com
Kelley's will be attending this event.

The Southeastern Michigan Beekeepers' Association (SEMBA)

76th Annual Conference
March 15, 2014: 8:00 am—5:00 pm
VisTaTech Center at Schoolcraft College, Livonia, MI
www.sembabees.org

NY: Southern Adirondack Beekeepers Association presents Tom Seeley and Jerry Hayes

March 15, 2014—Albany, NY
<http://www.adirondackbees.org>

VA: Mid-Atlantic Organic Bee Convention

March 15, 2014—Richmond, Virginia
Contact John Adams, 804 285-BEES,
Email martha.brooks27@gmail.com

CA: In Her Majesty's Chambers: Intro to Queen Honeybee Breeding & Rearing

Instructors: Melanie Kirby & Mark Spitzig,
Survivor Stock Queen Breeders
March 22-23, 2014: Monterrey (Santa Clara)
March 29-30, 2014: Palo Alto
(Early April workshops in Berkeley &
San Mateo & Marin Counties).
For more info, visit: <http://ziaqueenbees.com/zia/spring-2014-survivor-queen-rearingworkshops-in-california-offered/>

SW Ohio Beekeepers Association- Bee School

Cincinnati & surrounding counties
March 22, 2014
Oasis Conference Center—Loveland, OH
www.swoba.org
Kelley's will be attending this event.

AL: Bon Secure, Successful Queen Rearing

March 29, 2014
E-mail: bemisroger@hotmail.com



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