



Kelley Beekeeping

SERVING THE BEEKEEPER SINCE 1924

ISSUE 46: APRIL 2014



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The Buzz

by Kevin Harrub

April is finally here! Spring officially arrived in late March and with the advent of April comes “Bee Saturdays” at **Walter T. Kelley**. It’s an exciting time of the year in the hills of Kentucky as well as for many of you in the surrounding states! Everyone, including our bees, is starting to feel the warmth of spring, the longer days and there seems to be a little extra energy in our steps as we finally pull out of the dreadful winter (at least for many of us) that was. Following is the latest buzz from **Walter T. Kelley**.

HB-518

Even though it has been one of the coldest winters on record, the **Walter T. Kelley Company** has not been hibernating or resting on its laurels. We have spent the last several weeks partnering with Tammy Horn (K.S.B.A. & E.A.S. President) and many of the Kentucky State Beekeeping Association members trying to get legislation passed that would remove the sales tax from beekeeping equipment in the state of Kentucky. With the support of the agriculture commissioner and five co-sponsors voicing their support for House Bill 518, the beekeeping team felt confident that we would be given the opportunity to have our amendment voted on during the last legislative session; unfortunately, even with our grass roots lobbying involving many emails, phone calls, office visits and 150 2oz. Honey Bears given to various senators and representatives at the capital, we have not reached our objective thus far. One early takeaway was success is sometimes dependent on right positioning and timing. However, we did make our presence felt, developed many new friends in Frankfort and will continue to work together and work hard to form a lobbying group that can make sure that beekeepers can reap the same benefits as our agricultural friends and neighbors.



Vote Yes On HB-518 Honey Bears!.

The Buzz *continued*

Walter T. Kelley Supports WaterStep. WaterStep & Walter T. Kelley – Saving Lives and Sharing Hives!

Additionally, **Walter T. Kelley** is happy to announce that we are teaming up with **WaterStep**, a non-profit organization founded by Mark Hogg in 1995 and based in Louisville, Kentucky. **WaterStep** (www.waterstep.org) provides clean drinking water filtration systems all around the world. **WaterStep's mission:** *Empowering ordinary people to provide safe, clean water.* **Their vision:** *Water is Medicine™.* By using appropriate technology and training, WaterStep empowers volunteers and humanitarian professionals with the ability to assist communities with sustainable water solutions. Our hope is that we will see the day when no person in this world has to drink unsafe water. As you will learn when you visit their website, 875 million people don't have access to safe drinking water around the world.



In Frankfort, fighting for HB-518. Front left: Tammy Horn, President-Eastern Apicultural Society & KY Beekeepers Association President.

As part of our new relationship, on April 26th, **Walter T. Kelley** is donating to **WaterStep** (5) assembled Urban Hives and (5) packages of bees that will be located in downtown Louisville, atop WaterStep's newly renovated office complex. Yes, I did write "atop" of their office complex. These hives will be located on the roof of WaterStep's office building. Get the picture—urban hives located on an urban setting, alas, on a roof. Not to worry, the area has been scouted and even though they will be located in downtown, there are plenty of opportunities for nectar and pollen for the girls and their queens. The hives will be painted by Dupont Manual art students, an area high school that specializes in the Arts.

Additionally, when you purchase an urban hive from **Walter T. Kelley** a portion of your purchase dollars will be donated to WaterStep so that in your desire to increase the bee population, you will also be supporting WaterStep and their desire to provide clean drinking water around the world.

Lastly, as this project develops we hope to make these hives part of a research project with one of our prestigious academic institutions in Kentucky. Stay tuned for additional details to come as this relationship matures.

Walter T. Kelley Field Day June 7th

Mark your calendars! June 7th is FIELD DAY at Kelley's. Every year, on the first Saturday in June, many of the best and brightest beekeepers in the country gather (or shall we say, SWARM) at 807 West Main in Clarkson, KY to facilitate, educate and motivate hundreds of beekeepers at varying

The Buzz *continued*

experience levels. Getting your first hive, or been beekeeping for years, we have something for you. There will be as many as 16 presenters offering 8 classes simultaneously throughout the day. The schedule and presenter list will be available on the web at www.kelleybees.com in the coming weeks. Call 800-233-2899 to register or sign up on the web today to reserve your seat in the big tent and at our lunch table. Don't miss out on what has become one of the best beekeeping events you can attend. **First Saturday in June—Field Day—Come join THE SWARM!**

90th Anniversary “Remembrances of the Kelleys”

Lastly, in this edition of **Kelley Beekeeping** along with all the wonderful articles providing all the latest and greatest news on the beekeeping front, you will find an article by one of my many favorite people at Kelleys —Mr. Kenny Day. As you will learn, Kenny has been an employee at **Kelley's** for more than 44 years. He along with Maxine, Earl and many others (that you will hear from as the year progresses) are folks that continue to build on the legacy of great customer service & quality craftsmanship at **Kelley's**. Don't miss out on the stories shared by Kenny as we continue to reminisce about the Kelleys and this unique company located in Clarkson, Kentucky.

Without further delay, I hope you enjoy April 2014's Kelley Beekeeping Newsletter—may your hives be filled with plenty of brood this month!

Bee filled,
Kevin Harrub
Walter T. Kelley Company
kharrub@kelleybees.com



Come join THE SWARM! Field Day 2013.



From the Queen's Court

by Melanie Kirby

No Foolin' Around!

Guess what—we have to wait for 6 more weeks of winter! **April Fool's!**

What a trick that would be for beekeepers, and for the bees. Several regions of the U.S. are indeed, still bracing for late frosts and high winds as spring gains momentum. Other regions are virtually done with their spring bloom. What a diverse and varied world we live in. And what a trickster Mother Nature can be....



Finding bees that work well for you and your area's climate is no fool's game—it is necessary, essential and part of the wiser beekeeper's strategy to learn from the bees and Mother Nature. For years, there's been hype about this kind or that kind of bee as various entities look to find the "super bee" that will work well everywhere and for everyone. But as time has gone on, it has become quite apparent that not just one single strain of bee will work nor does one single mode of management. In today's world, beekeepers must include integrated pest management strategies, feeding and forage rotation, climate adaptation and conscientious and diverse handling methodologies. It takes A LOT of effort to keep bees healthy and productive—more so than in years passed. Beekeeping is not a foolish endeavor, but rather one that requires keen observation, fortitude, research, motivation and innovation.

Last October, with partial funding from a NM Department of Agriculture grant, as facilitator for the Rocky Mountain Survivor Queenbee Cooperative, I and several area beekeepers had the blessed opportunity to attend Apimondia—The World Beekeeping Conference which was held in Kiev, Ukraine. During that time, there seemed to be peace in the area so hearing the recent news of its trials is saddening. However, the beekeepers we met from there and from around the world, all have the same goal as U.S. beekeepers—and that is to maintain hardy strains that are pest and disease resistant, healthy and productive.

Interestingly enough at Apimondia Ukraine, I happened to attend the Endangered Bee Species Conservation working group discussion, as my interests rest in breeding of resilient strains for challenging environments. There was much information shared by the various presenters on their



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Queen's Court *continued*

specific strains in Italy, Spain, Germany and in Slovenia. Several of us in the audience, who also happened to be Americans, asked the question, "what do we do if we don't have any localized strains since mass movement of bees occurs every year in the United States? How can we find resilient bees that are healthy, and productive?"

I believe that I've found one possible answer to those questions...which rests in the process of producing queens. Dr. Marla Spivak, MacArthur Genius Fellow recipient at the University of Minnesota, has often said that there ARE good quality bees out there—we just have to FIND them.

And I agree—they are around, they are everywhere; but we, as an industry and as individual beekeepers, need to find, preserve and promote their production through quality enabling parameters and timelines. One of the biggest issues reported with queens in the U.S. is their lack of longevity. Why is that? Is it strictly genetics, environment, nutrition, stresses from chemical inputs and residues, weather challenges or?



Shocking bloom! Spring forsythia brightens the landscape.

Each of these plays a role in the situation. And no doubt there are other components not yet listed. Queries are pouring in from around the globe and local stewards are asking, "what can we do to help?!" There are several answers and one is to promote nutritious habitat, another is to be proactive in your stock selection and in your methodologies. And still another is to apply oneself individually as a beekeeper in their own apiary managements, and to also work collectively to better support the industry and national food production and security. One such beekeeper is Aiden Wing, who shares his first graft of the season with us on the cover shot. Learn more at www.wingsofnaturebees.com.

Commercial beekeepers are challenged every year, season after season, with not just one or two hives as some of their urban counter-parts experience, but hundred and thousand fold. The Big Guys' resilience is admirable—to put it mildly. Their perspectives are not always individually heard, and perhaps, we should encourage them to take the opportunity to be a part of the bigger discussion of this ensuing "Beekeeping Renaissance."

The demand is high, as high as the challenges; and producers are doing everything they can to supply the national need. They've done much to keep their own livelihoods intact and the pollination function of the industry active. They've helped to supply billions of bees to newer enthusiasts, experienced sideliners and expert professionals. They are the backbone of the American agriculture industry—and for that, we salute them.

As a beekeeper who got started with bees initially by assignment in mite-free zones, I am one of the few that can categorize myself as a "Before Mites" beekeeper. "After Mites" beekeepers have always had

Queen's Court *continued*

to contend with the escalation of mite conditions and have no prior experience to gauge it against. Without the prior experience, they are not able to readily recognize heightened issues nor how to develop a management protocol for them. Perhaps that gives them a perspective of having to adapt vs. comparing to years of lore while "Before Mites" beekeepers have the capacity to understand the short and long term effects of their management more readily; as prior experience has sculpted them into the stewards they are today. Coordinating together, the "After Mites" and "Before Mites" beekeepers will keep the scientific art and artistic science of beekeeping going for generations to come.

Learning to integrate pest management and resilient stock...the external pressures are what better adapt the bee...AND THE STEWARD. **Kelley Bees** is adapting as each beekeeper does; offering education services along with products to help keepers and their bees.

The learning curve is steep, the challenges ever evolving and the final result, sometimes bittersweet. These are not mentioned to discourage, but rather to encourage those of you new to the craft, to reach out to your fellow beekeepers. Learn the ropes by first observing the plant index; what and when are melliferous plants blooming. Shadow local beekeepers—for a season. Practice some initial handling techniques and learn seasonal management strategies.

If beekeeping were easy, then indeed—every fool and their cousin would be doing it...but it isn't—ain't that the truth! And read! Then read some more...So while it is no joke to be keeping bees these days, and not many fools are able to pull it off season after season, we salute the many established beekeepers out there and want to encourage them to become mentors.

In order to keep the scientific art and artistic science of beekeeping on positive footing, those with experience are implored to share their techniques and to encourage those new to the craft to study and implement practical and beneficial techniques. And share and read! Then share and read some more...

For together, as part of **Kelley Nation** we can pass the baton onto the future generations of pollinator stewards.

This issue has lots of interesting reads—the second batch of American Bee Research Conference abstracts are printed in this month's issue. We'll be contacting a few of these researchers to see if they would like to share their biographies with readers and a little about what their research interests are and their current studies later in the year. We'll also be getting ready to delve into some biodynamic beekeeping principles and how stewards of various capacities and approaches can integrate varied methodologies for healthy and resilient bees. Understanding how bees synthesize their nutrition from varied forage outlets and how they then share it with us for our own health will help us all to promote diversified forage corridors and preservation of our nutritious landscapes and further apitherapy applications.

Preserving landscapes, while promoting diversified forage, or food for thought is one such voice in this newsletter. We surely want to share up to date information and to encourage our readers to also share their thoughts and suggestions. This is the last month for the spring survey. If you haven't already given it a visit, consider it as it will help us to gather quality information for you!

**Share Your Thoughts
& Suggestions
CLICK HERE
& Take the
Kelley Nation Survey**

Queen's Court *continued*

Let **Kelley Beekeeping** online newsletter continue to offer you support and help you to become a stronger AND wiser beekeeper. After 90 years, **Kelley Bees** is still going strong. Their resilience, fortitude and support for and to beekeepers are what keep them going. They are gracious in their approach and offerings.

So don't be a Fool! Bee a part of the **Kelley Nation**.
There are fantastic deals this season.
The wise beekeepers will make the true gold.

Hip-Hip-Hooray! What a fine spring day!

Melanie has been keeping bees professionally for 17 years. She is a survivor stock queen honeybee breeder in the southern Rocky Mountains of New Mexico where she also conducts living laboratory research and produces exquisite desert to alpine honeys and apiceuticals. Email: Editor@KelleyBees.com.



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My Memories of the Kelleys

by Kenneth Day

My first day of work at the Walter T. Kelley Company was October 6, 1969. I worked in the wood shop for the first year and a half. During my initial encounter with Mr. Kelley, he gave me a tour of the wood shop and told me to come back and see him October 6th and he'd hire me; but I came back early, on September 6th so he went ahead and hired me, but I did not start work until October 6th. I'm on my 45th year at Kelley's!

Early on, one of my fellow employees got cancer and I took over his position on the cut-off saw. A year and half later they moved me to the metal shop where I built 33 and 72 frame extractors. I did this for several years then I went into maintenance where I took care of all the equipment and built new production machines. I've continued to be over in maintenance ever since and also make much of the equipment that others aren't used to making.

I remember on one occasion that a Cadillac salesman came to speak to Mr. Kelley about purchasing a Cadillac. The salesman told Mr. Kelley that he had an easy installment plan. Mr. Kelley's response was, "Do you see this field out here? You could park your Cadillacs end to end and side by side and some on top and I could pay cash for them, but I don't want those !\$%#@ things."

Mr. Kelley also use to build the fires in all the furnaces in different buildings each morning. One morning Mr. Kelley came in and found a salesman at the front gate. Mr. Kelley brought him in the back way and during their conversation, the salesman asked, "How they treat you around here?" Mr. Kelley said, "Well, they treat me pretty good." The salesman then asked, "Well, what do you do around here?" Mr. Kelley responded, "I sweep the floors, go downtown and get stuff for everyone, pick up the mail and one other thing, I sign their !\$%^@ checks!" The salesman quickly picked up his briefcase and practically ran out the gate—we never found out who he represented.



Kenneth Day has worked at Walter T. Kelley for 45 years.

My Memories *continued*

Regarding Ida, I have a memory from back in the 70s where one of the Kelley's dogs (Ike) had gotten into some neighbors calves and killed two of them.

Kenneth called Mr. Kelley to tell him about it and Mr. Kelley asked Charlie to shoot the dog, and have Paul bury the dog—again, this was in the 70s. Mr. Kelley had taken Mrs. Kelley to Louisville to the doctor and he had not told her what had happened with the dog. Mrs. Kelley comes home and starts calling the dog, and Paul who had buried the dog, started calling for Ike, like he didn't know what had happened to it.

I also remember Mr. Kelley doing pull-ups in the metal shop and shipping room—he'd do them about every morning. He did this up until 2-3 years before he died in 1986, so he was doing pull-ups all the way up to 86 years of age.

I've really enjoyed working at Kelley's. The company has always been good to me and I'll stay as long as they need me. I look forward to working many more years, even though I'm 72 years of age. My favorite response when asked, "What are you doing today Kenny?" I always respond, "As little as I can get by with."

Sales Manager Kevin Harrub can tell you first hand: *Kenneth Day keeps this place running. He will be missed when he decides it's time to retire. We hope that is never!*

Kenneth Day has worked for the Walter T. Kelley Company since 1969.

"Well, what do you do around here?" Mr. Kelley responded, "I sweep the floors, go downtown and get stuff for everyone, pick up the mail and one other thing, I sign their !\$%^@ checks!"



Kenneth has maintained equipment of all kinds for many years.

A•Bee•Cs

Beginning Beekeeping

by Phill Remick

Q: I was watching someone install package bees in a video and they shook and shook and bounced the bees very hard down into the hive—won't that make them incredibly angry? It would me—just saying.

A: First of all, this is a very poor way of treating your new friends who have been stuffed in a hot, cramped space the size of a shoe box for many, many hours. The average package has about 9,000 bees inside! Imagine being in the back of a hot, poorly ventilated, noisy delivery truck bouncing to and fro; one would think most beekeepers would consider this fact! Think like a bee.

I suggest you have the hive body ready and division board feeder installed with sugar syrup along with an empty super standing by. Remove the queen cage, insert it between frames. After removing the can of feed and putting an empty super right on top of the hive body, place the entire package on its side and close the hive; the bees will now crawl out and down into their new, cool pad. No violent shaking!

Upon your return the next day the majority of your pals will 'bee' busy setting up their domicile and slurping sweet sugar. All you have to do is: Lift the lid, remove the wooden 'package,' the can of feed and the empty super—then buzz off!

Phill Remick started keeping bees in 1974. He served as a seasonal apiary inspector in Fresno, California. At one time, Phill ran 1000 colonies. He now keeps 50 hives in the Albuquerque metro area. Visit www.newbeerescue.com.



Treat your new friends gently! No violent shaking!

Just the FAQs

by Dennis Brown

I am frequently asked about what kind of top do I like to use. My answer and reason is quite simple. I like to use both the migratory top and the telescoping top.

Here in Texas the summer temperatures are grueling. We reach above 100 degrees on many days. Starting in spring when the night temperature stays above 60 degrees, I place a wooden migratory top on my hives. I leave these tops on until the evening temperature reaches 50 degrees and below consistently.

When the evening temperature stays below 50 degrees, I replace the migratory top with a metal telescoping top. During the cooler periods, the metal will absorb the heat from the sun and keep the interior of the hive warmer.

Several years ago, I performed an experiment on using the metal top during the hotter months and found that the hive averaged 4 degrees hotter than using a wooden top. On the exterior, you could not touch the metal without getting burned. Now, 4 degrees might not sound like much, but it takes a lot of bees fanning their wings to keep the temperature down to only a 4 degree difference. I learned pretty quickly that I would rather my bees to be out in the field bringing in nectar than spending their time inside the hive fanning their wings.

Help your bees out by providing them with a metal top during the colder months and a wooden top the rest of the time.

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. Contact Dennis at www.lonestarfarms.net.

Kelley's also offers a white plastic outer cover that is durable, rot & termite proof as well as white, which helps to reduce the surface heat of the outer cover in the summer.



ITEM #49A



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X•Y•Zs

Advanced Beekeeping

by Dennis Brown

Hey Dennis,

I watched a video of a beekeeper performing checker boarding the frames. The temperature was only 45 degrees outside. Watch the video at <http://www.youtube.com/watch?v=ApsljzjKzJ8>

Paul

Hello Paul,

By "checker boarding" when he did—when the temperature was 45 degrees during the day and in the 20s and 30s at night—he spread the brood out too far for the amount of bees he has in the hive to cover the brood with. I'm certain some of his brood chilled and died. He performed that two weeks early according to how many adult bees I saw on the frames and how much sealed brood there was.

I don't like checker boarding because it causes the queen to slow her egg laying down. It confuses her. She doesn't know where she left off. She has to search for a place to lay. That's why we should always place the frames back in the hive the way we took them out. The queen can tell where she needs to lay by how the brood is laid out. (Age of the brood.) It gives her direction.

You should not be working in your hives when the temperature is 45 degrees outside. (and colder at night.) The brood nest is kept at around 95 degrees by the bees for a reason.

Checker boarding is not something I would do in my hives, and I most certainly would not open my hive when the temperature is 45 degrees outside. When you open the hive, you break open the sealed top and frames. The bees have it just right for getting through those cold temperatures.

Dennis

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. Contact Dennis at www.lonestarfarms.net.

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Bee Thinking About

It Takes a Community to Raise Bees...& Beekeepers

by Kaat Byrd

The future generations of beekeepers are in our midst. Those inspired today and tomorrow will help to carry the torch in coming seasons as honeybee and pollinator stewardship evolves to overcome the challenges faced. They are seeking to develop their skills and to share with others; as we all work together learning to adapt to varied circumstances and topographies.



I had the great pleasure of meeting a vibrant and insightful beekeeper by the name of Kaat Byrd while I volunteered for the USAID Partners of the Americas Farmer to Farmer program at the end of last year. Kaat has been travelling and interning at bee farms near and far—learning more about bees and beekeepers at each of her stops along the way as she journeys on the path of creating her own beekeeping experiences.

Kaat has quite a unique perspective in that she is also a deaf beekeeper. Her interactions with bees and beekeepers she encounters share a distinct perspective. I have encouraged Kaat to share her unique perspective with Kelley Beekeeping readers. For indeed, though one may not hear the buzz, it is felt... an emotion that all beekeepers can relate to.

For four moons I lived on the enchanted island of Jamaica as a student of the Yerba Buena Farm and Apicultural School.

Through the Farmer-to-Farmer project, which is funded by USAID Partners of America, the Yerba Buena Farm and Apiculture School has been able to host professional beekeepers from all over the globe. These trainers volunteer to teach hundreds of beekeepers through trainings and workshops to explore solutions for the various circumstances and challenges that Jamaican beekeepers face. Each trainer brings their own expertise, whether it be treatment-free beekeeping, top-bar hive construction and management, survivor queen rearing, DIY equipment construction, habitat conservation, value-added products, marketing, and anything else that is important to know for practical and conscientious beekeeping.

Behind Yerba Buena Farms is Agape and Kwao Adams; who, so far, are the only known beekeepers in Jamaica implementing a treatment-free system in their apiaries. Their stock consists mostly of small dark bees from feral colonies gathered from local swarms and tree cut-outs. Agape and Kwao mainly work with top-bar hives, which, compared to the conventional Langstroth hives, has proven to be a cheaper and more accessible alternative for Jamaica. The training apiary of Yerba Buena Farm incorporates top-bar hives constructed with various materials such as woven wicker and bamboo, cloth, hemp bags, particle board as well as locally-sourced wood.

Bee Thinking About *continued*

While traveling all over the island with three trainers, the impact of the exchange of knowledge was unmistakable. The eyes of Jamaican beekeepers, who have been struggling with hives filled with strong mites and weak bees, sparked as the trainers guided them through the methods of beekeeping that fosters naturally healthy bees. The island's beekeepers are understanding the concept that, by using chemical treatments, they are using an un-sustainable solution that creates a weak bee. They are eagerly learning how to breed for a strong survivor stock that is disease and pest resistant. The vast potential and market of value-added products made from the hive's medicines was also taught.

During the trainings there are lively discussions of experiences, challenges, solutions, and experiments that are shared for all to benefit from. There is a saying that if you ask ten beekeepers a question, you will get eleven different answers. I came to Jamaica with the intention of exploring these diverse perspectives and ideas of simple, humble, and pure honeybee stewardship.

Some beekeepers prefer to puff billowing amounts of smoke directly into the hive, some smoke the air around the hives yet others rarely touch their smokers. Some like to inspect every comb and manipulate the brood-nest in attempts to maximize strength and size and minimize swarming; others only look for eggs before closing up and refuse to manipulate the brood-nest. Beekeepers have to be mindful of their resources, biospheres, and needs so various philosophies and techniques develop.

There is no one 'right' way to beekeep—because circumstances vary constantly. Therefore, every beekeeper is continuously developing their own style and system that (hopefully) works for their relationship with their bees. By sharing our techniques and staying open to all the different perspectives and ideas of bee tending, no matter how absurd or negative some manipulations and interventions may seem, we can learn from them and decide for ourselves whether or not it may be appropriate for our own systems.

This internship helped me explore the diverse relationships that can



Kwao Adams talking to Jamaican beekeepers.

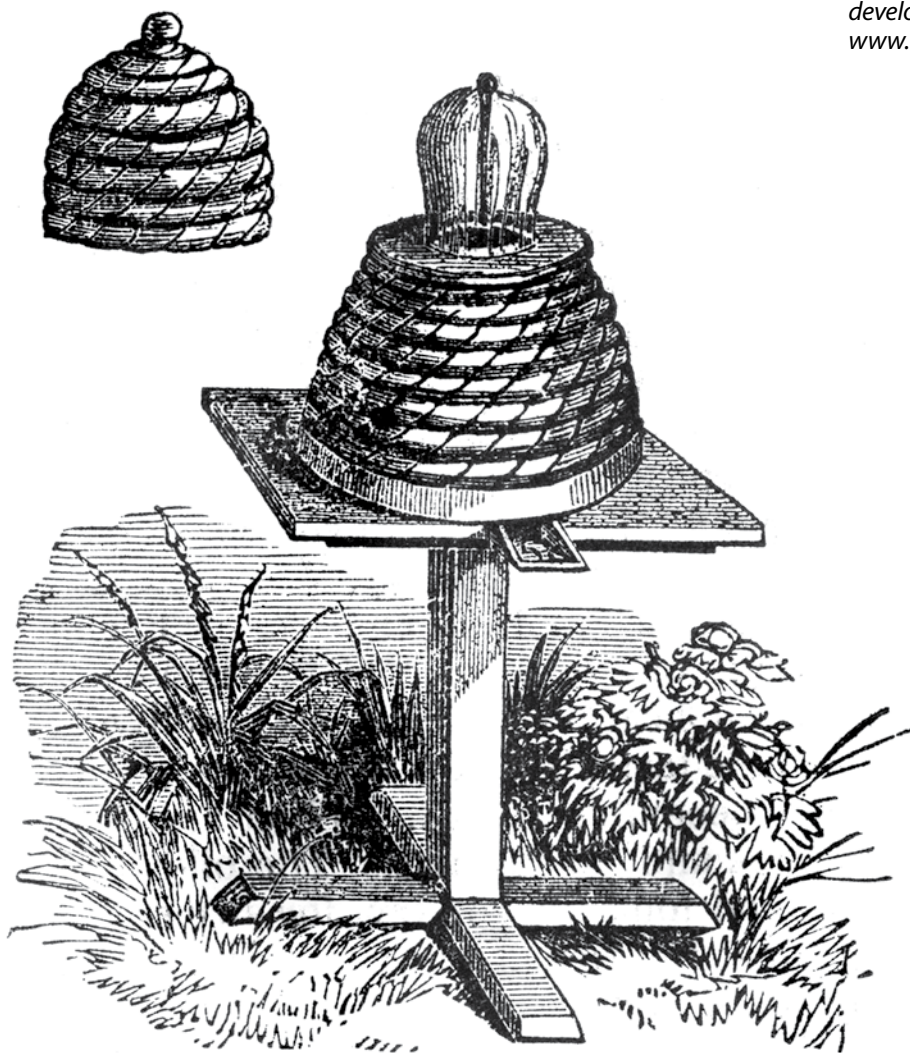
be found between bee and keeper and taught me how to observe carefully, question everything, and try to put myself in the beekeeper's shoes as well as the bee's wings. While meeting beekeepers and visiting apiaries, I experienced some ideas and practices that made me question whether it was an appropriate approach for the situation since it seemed to be working against the bees rather than with them. The

Bee Thinking About *continued*

actions that appeared to be negative ended up giving me lessons as valuable as the positive actions did. By working in cooperation (rather than competition) to advocate healthier bees and a cleaner environment through sustainable solutions, we can better care for these humming super-creatures that provide us with an abundance of fruiting plants, hive medicines and an ancient wisdom.

Agape and Kwao dedicate countless hours of their time, energy, and focus to provide Jamaican beekeepers with beekeeping alternatives that are environmentally and economically sustainable. It is safe to say that this duo is jump-starting a sustainable beekeeping movement in Jamaica by blazing trails towards naturally healthy bees. It has been a blessing to learn and work with them. There are internships available for anyone who is interested.

Kaat Byrd is a Deaf traveling beekeeper who signs for the bees. She is focusing on educating and empowering the Deaf community with American Sign Language (ASL) friendly honeybee workshops and presentations. Since her four-month beekeeping internship in Jamaica, Kaat Byrd has been focusing on exploring sustainable beekeeping techniques with a DIY approach. To keep up with Kaat's developing beekeeping experiences, visit her blog at: www.rootflux.com Email: kaatbyrd@gmail.com



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Bee Science

Abstracts from 2014 American Bee Research Conference Meeting

Through these challenging times of American beekeeping, it is imperative that diverse institutions, beekeepers of varying practices and capacities, and stewardship organizations support multi-disciplinary efforts to better understand and further promote positive pollinator management. In an effort to introduce many of you to the broader scope of bee health and science research, Kelley Beekeeping newsletter will be running the 2014 American Bee Research Conference abstract proceedings of submitted research from across the United States.

This is the second batch of proceedings (Abstracts #9-12). For first batch (Abstracts #1-8) please see March 2014 issue of Kelley Beekeeping. We'll run batch 3 (Abstracts #13-18) in May 2014 issue and batch 4 (Abstracts #19-25) in June 2014 issue of Kelley Beekeeping. The ABRC brings some of the finest and fittest researching scientists together to share their research work and to support each other through the peer-reviewed process.

Compiled and Edited by Drs. Juliana Rangel, Associate Professor and Rose-Anne Meissner, Research Associate, Dept. of Entomology, Texas A&M University, College Station, TX 77843

9. Hooven, L.A. - THE FUNGICIDE IPRODIONE REDUCES DEVELOPMENT OF LARVAE AND CAPPED BROOD IN SEMI-FIELD EXPERIMENTS Department of Horticulture, Oregon State University, Corvallis, OR 97331 (e-mail: hooovenl@hort.oregonstate.edu)

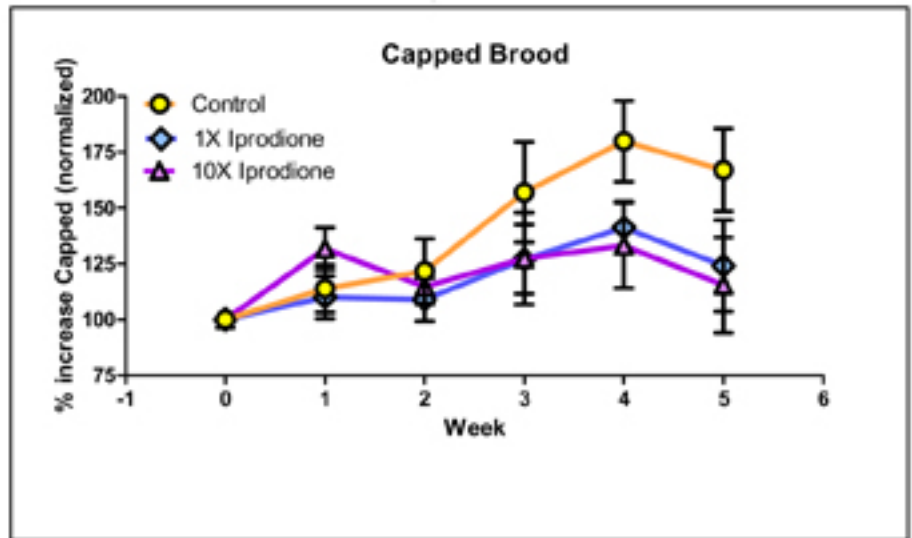
Results from conventional toxicity protocols modeling short-term exposure suggest fungicides have little or no effect on adult bees (Adaskaveg et al, 2011 UC Davis IPM Program). As a result, most fungicide products do not display a precautionary statement for bees on the label, and are freely applied during bloom while bees are actively foraging. However, in addition to direct spray exposure to adult bees, multiple fungicides are transported with pollen into the colony, persist in hive materials (Mullin et al., 2010, PLoSOne e9754), and may affect the microbial ecology of the colony (Yoder et al., 2013, Journal of Toxicol Environ Health A. 76:10). Nurse bees and larvae would be expected to consume the resulting contaminated pollen or bee bread.

Despite their low toxicity rating, beekeepers suspect that fungicide applications may result in delayed effects on honey bee development (Mussen, 2008, Apiculture News, Nov/Dec), although these reports are difficult to link to a specific pesticide. Certain fungicide treatments exhibit adverse effects on bee larvae in laboratory tests (Mussen et al., 2004, Journal of Environ. Entomol 33:5), and may affect susceptibility to *Nosema* (Pettis et al., 2013, PLoSOne e70182). Field tests are needed to validate the relevance of lab studies, and determine whether specific fungicides are related to beekeeper reports.

Bee Science *continued*

In semi-field studies, we fed pollen spiked with fungicides to honey bee colonies, and evaluated colonies weekly for six weeks. In a preliminary study, we observed that capped brood in controls increased over several weeks, while capped brood in chlorothalonil and iprodione exposed colonies did not increase. We did not observe any significant effects in response to boscalid/pyracostrobin treatments.

In an expanded study, we exposed honey bees to pollen spiked with increasing concentrations of iprodione, and found similar results, with increasing larvae and capped brood in controls, with little increase in treatment groups. Together, these results suggest that ingestion of iprodione in pollen may target larval development, possibly through toxicity to colony microflora, toxicity to nurse bees, or direct toxicity to larvae. Additional studies are needed to confirm similar preliminary results from chlorothalonil treatment, and determine whether other fungicides, fungicide mixtures, or repeated exposures have detrimental effects on honey bee colonies.



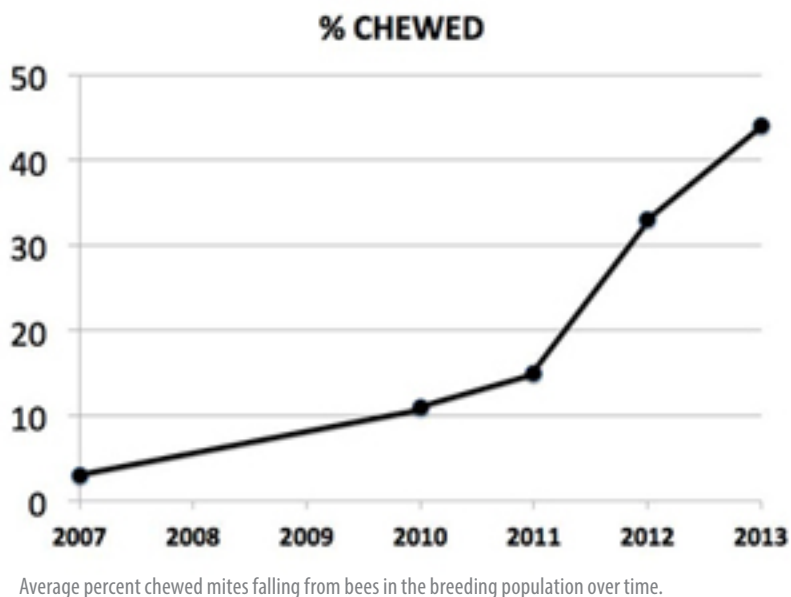
10. Hunt, G.J.a, K. Givena, J.M. Tsurudaa & M.E. Arechavaleta-Velasco - PROGRESS TOWARDS BREEDING FOR INCREASED MITE-GROOMING BEHAVIOR IN HONEY BEESaDepartment of Entomology, Purdue University, West Lafayette, IN 47907 (e-mail: ghunt@purdue.edu), b Agricultores y Pecuarias, Apiculture, Ajuchitlan, Instituto Nacional de Investigaciones Forestales, Ajuchitlan, Querétaro, 76280, Mexico

Varroa destructor mites and the virus complex associated with them are generally believed to be the greatest health threat to honey bees worldwide. One trait that reduces *Varroa* population growth in colonies is grooming behavior (Arechavaleta-Velasco & Guzmán-Novoa, 2001 *Apidologie* 32:157-174). Genetic studies identified a chromosomal region and candidate genes influencing grooming behavior, which demonstrated that the trait is heritable (Arechavaleta-Velasco et al., 2012 *PLoS One* 7:e47269). However, there has been little effort to incorporate this trait into breeding lines. We began selecting for increased grooming behavior in based on the proportion of chewed mites that fall onto sticky sampling sheets because colonies with relatively high levels of chewed mites are better at removing mites from themselves (Andino & Hunt, 2011 *Apidologie* 42:481-484). Mites from sticky boards are placed on glass slides with legs up (usually only legs are bitten) and



Bee Science *continued*

examined at 15X magnification. A fairly strong response to selection has been observed in the breeding population, resulting in an increase in the average proportion of chewed mites from 3% to 44% last year (Figure). Preliminary data indicates that colonies with higher grooming rates have relatively fewer mites on adult bees. Because of the variability of this trait (apparently grooming activity is variable seasonally) we recommend that breeders assess the trait more than once a year.



11. Johnson, R.M. & E.G. Percel - EFFECT OF THE IGR INSECTICIDE DIMILIN ON QUEEN DEVELOPMENT Department of Entomology, The Ohio State University, Wooster, OH 44691

Over a million honey bee queens are reared in California's Central Valley each year, with many queen rearing operations situated among the state's 800,000+ acres of almond orchards. While almonds provide a rich foraging resource for bees when they are in bloom, bees foraging on almonds may be exposed to high doses of pesticides applied during almond flowering. In recent years queen rearing operations have experienced unexplained mortality of immature queens, as high as 80% in some reports, in the weeks after almond bloom. Many have attributed these losses to the bees' exposure to bloom-time fungicide sprays, but it has not been possible to replicate the reported effects on queen survival through experimental application of fungicides. However, analysis of pesticide use data maintained by the California Department of Pesticide Regulation reveals that insecticides may to be blame. In 2011 insecticides were applied to 130,000 acres of almonds

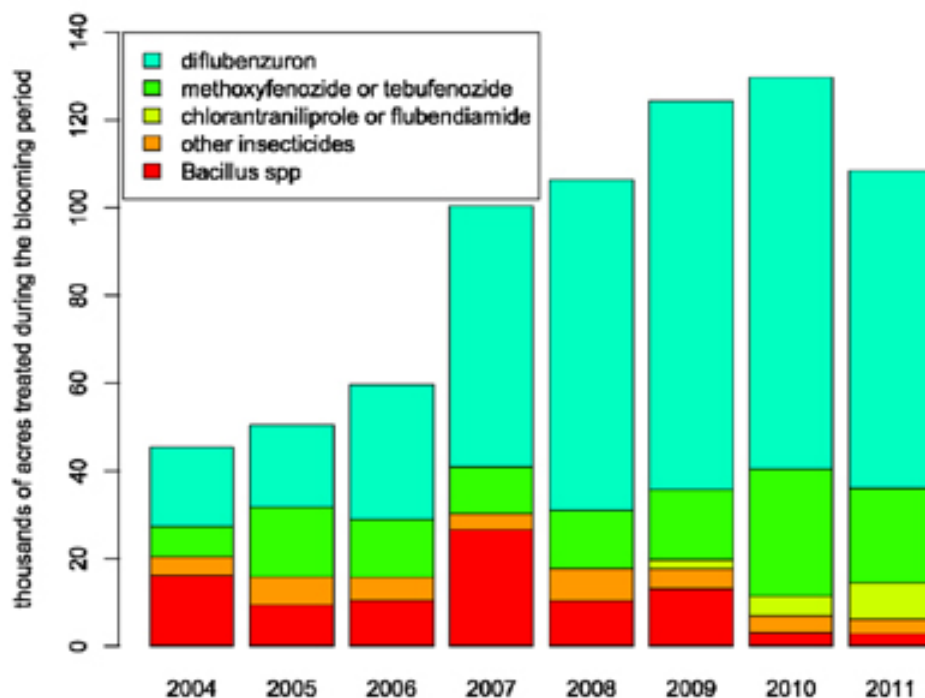


Figure. Area of almonds to which insecticides were applied during the bloom period (February 15 – March 15) in California.

during the almond bloom period (see figure), and these insecticides were tank-mixed with fungicides 98% of the time. To determine the effect that the most popular insecticides have on queen development we reared queens in closed “swarm boxes” provisioned with pollen artificially contaminated with 100 ppm chlorantraniliprole (Altacor), 100 ppm methoxyfenozide (Intrepid 2F) or one of three concentrations of diflubenzuron (Dimilin 2L): 1, 10, or 100 ppm. None of the queens in the 100 ppm diflubenzuron treatment emerged as adults, and significantly fewer queens emerged as adults in the 10 ppm diflubenzuron and 100 ppm chlorantraniliprole treatments compared to the control treatment. The widespread use of insecticides on almonds during bloom should be reconsidered in light of the potential for these insecticides to harm immature bee development.

12. Kirby, M., A. Lewis & M. McGee - THE ROCKY MOUNTAIN SURVIVOR QUEENBEE COOPERATIVE Zia Queenbee Co., Truchas, NM 87578 (e-mail: rmsqbcoop@gmail.com)

The Rocky Mountain Survivor Queenbee Cooperative is continuing into its fourth year of treatment-free stock exchange (see Table). New Mexico experiences 7/8 climactic zones and thus proposes challenging topographical influences that readily test honeybee stock. The concept that Nature vs. Nurture is derisive no longer reveals contradictory forces; but rather, a symbiotic relationship of nature nurturing that allows bees and their genetic story to unfold and display itself (Maleska 2010, PLOS). Reality and research based methodologies (Tarpy et al. 2013, *Naturwissenschaften*, 100: 723-728; Rangel et al. 2012, *ABRC/Amer. Bee J*, 152: 405; Wilson-Rich et al. 2012, *J of Insect Phys.*, 58: 402-407; Delaney et al. 2011, *Apidologie*, 42: 1-13; Kocher et al. 2009, *Behavioral Ecology*, 20: 1007-1014; Seeley & Tarpy 2007, *Proc. of the Royal Soc. of London, B.*, 274: 67-72; Tarpy & Seeley 2006, *Naturwissenschaften*, 93: 195-199; Tarpy 2003, *Proc. of the Royal Soc. of London, B.*, 270: 99-103) have been applied to better develop a breeding and production protocol founded on observations from within our living laboratory as it nurtures the cycles of life and longevity (Kirby 11/2012 *Bee Culture*; Kirby 6/2011 *Amer. Bee J*) and tests our bees on the rugged topography and fluctuating microclimates that abound in the Land of Enchantment and the Rockies.

Participating beekeepers of various hive design practices spread across high desert, riparian and alpine landscapes—experiencing diverse and adverse conditions at elevation maintain regionally fortified stock lines, minimize importation threats, and support rural entrepreneurship. Objectives include promotion of survivor (longevity-based) cross-stock queen breeding through treatment-free management, extended timeline for rearing, and professional development exercises. These objectives enhance individual and collective apiary managements and offered services benefiting the surrounding communities of each beekeeper.

The Rocky Mountain Survivor Queenbee Cooperative initially began as an out of pocket pilot program between NM beekeepers located in the Pecos, Carson and Santa Fe National Forests. In 2012, The Cooperative was granted funding from Western Sustainable Agriculture Research Education (Kirby, 2012 www.sare.org #FW12-096; Kirby 2/2013 *Amer. Bee J*) and included 9 beekeepers, spanning close to 500 miles, through 2 states and 7

Bee Science *continued*

counties from Santa Fe, NM to Fort Collins, CO (Kirby, 2/2013 Amer. Bee J). In 2013-2014, the New Mexico Department of Agriculture: Ag Advancement and Product Promotion grant has been awarded for focus on NM beekeepers.

The cooperative's roots are based on the "Southwest Survivor Queenbee Project" (Kirby & Spitzig, 2007 www.sare.org #FW07-032; Kirby 11/2007 Amer. Bee J). In the summer of 2013, The RMSQB Cooperative was awarded the Sustainable Santa Fe Award for Climate Adaptability. And in the fall of 2013, the RMSQB Cooperative participated at Apimondia- Ukraine, sharing their concepts and case studies with beekeepers from around the world.

As with grass roots efforts, the crux of ensuring a steady and sustainable pace to success lies in consilience of funding and multi-disciplinary collaborations. The RMSQB Cooperative seeks research collaborations with various individuals and scientists to further promote regional fortification and production while also supporting local, regional and national food production and security. The Rocky Mountain Survivor Queenbee Cooperative objectives for 2014 include publication of a survivor stock rearing manual and outreach workshops. For info on breeding stock, email rmsqbcop@gmail.com.

TABLE: Rocky Mountain Survivor Queenbee Cooperative Mating Apiary Sites 2013-2014



COMMUNITY COUNTY ELEVATION (ft)/(meters) 2013-2014 New Mexico

Truchas	- Rio Arriba	8300'	2530m
Mora-	Mora	7179'	2188m
Arroyo Hondo-	Taos	6798'	2072m
El Prado-	Taos	7123'	2171m
2013 Crosses: TxAH, TxM, TxEP, MxAH, MxT, AHxEP, AHxT, AHxM			

2012 New Mexico

Truchas-	Rio Arriba	8300'	2,530m
Mora-	Mora	7,179'	2,188m
Buena Vista-	Mora	6,998'	2,133m
Arroyo Hondo-	Taos	6,798'	2,072m
Santa Fe-	Santa Fe	7,260'	2,213m

2012 Colorado

Walsenburg-	Huerfano	6,182'	1,881m
Denver-	Arapaho	5,183'	1,580m
Ft. Collins-	Larimer	5,003'	1,523m

2012 Crosses: TxM, TxAS, TxAH, TxSF, TxFCx, AHxT, MxAS, ASxT, ASxM, ASxFC, DxX,

2011 New Mexico

Truchas, Mora, Buena Vista
2011 Crosses: TxM, TxBV, BVxM, BVxT, MxT, MxBV
Santa Fe, Pecos, Carson National Forests



Introducing Larry Marks

I started my beekeeping career at the early age of 12 yrs. old by helping my father and grandfather raise their bees in 1955. I'm a 5th generation beekeeper. My father kept bees as did my grandfather. I was taught the trade of beekeeping by my father and grandfather and still use some of the same techniques today that were taught to them by their father and grandfather, so I do come from a rich background in beekeeping dating all the way back to the early 1920's.

I help spread my knowledge of bees and beekeeping in my community in many ways. I participate in my grandchildren's school for career day and show the students the art and science of beekeeping. I also participate in several local bee meetings and share my knowledge of the trade at the Bardstown Bee Meeting in Bardstown, KY, and the Bluegrass Beekeeper's Association in Lexington, KY. I have set up booths at several festivals throughout the state, such as the Kentucky Bourbon Festival in Bardstown, KY, and the Bernheim Forest Fall Festival in Bardstown, KY.

I not only sell honey at these events but I also see and talk to hundreds if not thousands of people all who are interested in how the bees make honey and how the process of extracting the honey works. I also help share my knowledge of beekeeping by working with my three boys and many of my grandchildren in hopes that they will continue the family tradition.

My family has strong ties with the Kelley Company. Mr. Kelley use to visit our home at least once a year, coming over and talking with all of us about beekeeping. His company has always had great quality products and great prices. We've always purchased from Kelley's and we always will.

Additionally, I am proud say that Kelley's now carries the MARK'S END BAR which combined with



Larry Marks finds inspiration in a wall frame.

Kelley Nation

Your Story Is Our Story *continued*

your choice of top and bottom bar makes the Mark's Frame. What is the Mark's Frame you ask? Over the years I noticed when removing bees from trees and homes that they would build the natural comb 2-4 feet long and this allowed them plenty of space to move up and down throughout the year. Two years ago I decided to try an experiment on 10 of my hives – I have 175 hives. I designed and built frames that measured 19" tall. They were just like a regular frame only the end bars are much longer, making the frame longer. I installed 4 Mark's frames into the center of the 2nd brood



Larry holding a Mark's Frame.

box in my 10 experimental hives, which with the length of these being what they are, the frames extended into the first brood box. I also had to develop a way to lengthen the wax foundation. I added two sheets of foundation and also put in traveling holes into the foundation so that my bees could move from side to side. Because of the frames length, I also developed a frame caddy that allows me to easily work the hives that have these extra-long frames. Obviously, these frames are meant for two brood boxes or three medium supers used as brood boxes.

I am extremely excited about the results I have seen with the hives that have these frames. I have managed to have 100% survival rate in these hives over the last two winters – in this day and age that is unheard of as all of you know. I'm now purchasing these frames from Kelley's so that I can expand on the number of hives that carry these frames, with all future hives getting these frames. I'm sure that Kelley's will be glad to provide greater detail should you choose to give these frames a try.

As you can see beekeeping is something that I've always enjoyed. I have always been fascinated by bees and will continue to work and experiment as I learn more and more about these wonderful insects.

In Memoriam—Remembering Ernest Cornett

Beekeepers from the Western half of the state and especially Muhlenberg County recently lost a great friend. Ernest Cornett, a long-time resident of Muhlenberg County and a lifelong beekeeper passed away Monday March 24, 2014. Ernest served two years as the president of the Paradise Beekeepers Association which has members from Christian, McLean, and Muhlenberg counties. He taught classes at the monthly association meetings as well as some of the area beekeeping schools.

He was a mentor to the 4-H Youth Beekeepers in Muhlenberg County and enjoyed sharing his knowledge with the 4-H club members. Ernest was always willing to answer beekeeping questions for the young and old alike. He will be missed by everybody at the Paradise Beekeepers Association as well as those of us at the Muhlenberg County Extension Service. We are blessed here in Muhlenberg County to have so many great leaders and volunteers for all of our Extension programs but especially our beekeeping programs. Ernest was certainly one of the best and we won't forget him.



Ernest Cornett (on right) building hives with 4-H Youth Beekeepers.



Ernest was a mentor to the 4-H Youth Beekeepers in Muhlenberg County.

Sweet As Honey

In homage to flavor and one that we savor...HONEY!

by Beatrix Royale

Lavender-Scented Strawberries with Honey Cream

Showcase the season's first berries in this rich, not-too-sweet dessert. Be sure to use Greek yogurt, which has been strained and is thus very thick and creamy.

Ingredients

1/3 cup water
1/3 cup sugar
1/2 teaspoon dried lavender (such as McCormick)
1/2 teaspoon unflavored gelatin
1 tablespoon water
1/4 cup honey
2 tablespoons cornstarch
1/8 teaspoon salt
3 large egg yolks
1 cup 2% reduced-fat milk
1 (6-ounce) container 2% Greek-style plain yogurt
2 cups quartered strawberries

Preparation

1. Bring first 3 ingredients to a boil in a small saucepan; cook 1 minute or until sugar dissolves, stirring occasionally. Remove from heat; let stand 10 minutes. Strain syrup through a sieve into a small bowl; discard solids. Chill.
2. Sprinkle gelatin over 1 tablespoon water in a small bowl. Let stand 1 minute or until gelatin dissolves.
3. Combine honey, cornstarch, salt, and egg yolks in a medium bowl; stir well with a whisk.
4. Heat milk over medium-high heat in a small heavy saucepan to 180° or until tiny bubbles form around edge (do not boil). Gradually add hot milk to egg mixture, stirring constantly with a whisk. Return milk mixture to pan. Cook over medium heat until thick and bubbly (about 2 minutes), stirring constantly. Remove from heat; add gelatin mixture, stirring well. Pour milk mixture into a bowl; stir occasionally until cool but not set (about 20 minutes). Stir in yogurt. Spoon 1/4 cup yogurt mixture into each of 8 dessert glasses or bowls. Cover and chill at least 2 hours.
5. Top each serving with 1/4 cup strawberries, and drizzle with 2 teaspoons syrup.

Jeanne Kelly, *Cooking Light*—Reprinted from www.myrecipes.com



From myrecipes.com - Photo: Sang An; Styling: Pam Morris

UPCOMING EVENTS

April 2014

West Virginia Beekeepers Association
Featuring Jeff Harris & Kim Flottum
April 15, 2014
Fairmont, WV
Info: www.wvbeekeepers.org/
Kelley's will be attending this event.

Kansas: Northeast Kansas Beekeepers Association: installing packages, making splits & re-queening.
April 7, 2014 7:00 PM
<http://www.nekba.org/>

May 2014

Illinois: 18th Annual Charles Mraz Apitherapy Course & Conference (CMACC)
May 2-4, 2014
National University of Health Sciences
200 E. Roosevelt Rd.
Lombard, IL 60148
Info visit: www.apitherapy.org

Northern New Mexico Rocky Mountain Sweet Spring Sting Symposium for Pollinator Stewards: Habitat & Health featuring Dr. Tom Seeley
May 3, 2014 Santa Fe, NM
at St. John's College: 10am -1pm
May 4, 2014 Taos, NM at SMU-Taos: 1-4pm
Contact: rmsqcoop@gmail.com

Kansas: Northeastern Kansas Beekeepers Association
Monday, May 5, 2014 7:00 PM
<http://www.nekba.org/>

University of Georgia Young Harris 23rd Annual Beekeeping Institute
May 15-17th, 2014
Young Harris, GA
Info: <http://www.caes.uga.edu/departments/ent/bees/young-harris/index.html>
Kelley's will be attending this event.

New Mexico: Charm School for Beekeepers: The Super Organism-The Basics of Getting Started with Honeybees
May 17, 2014
El Prado-Taos, NM
Info: <http://ziaqueenbees.com/zia/taos-charm-school-for-beekeepers-series-drop-in-workshops/>

2014 Pollinator North to South Spring Lecture Series featuring Dr. Juliana Posada-Rangel sponsored by the Rocky Mountain Survivor Queenbee Cooperative
May 22, 2014 NMSU-Alcalde Sustainable Ag Research Farm & Center 9:30am-12:30pm
May 23, 2014 Albuquerque Bio Park 1-3pm
May 24, 2014 Queen Rearing Field Practicum @ Zia Queenbee Farm-Truchas, NM 1-4pm
May 25, 2014 Alamogordo Extension Office 2-4pm
Contact: rmsqcoop@gmail.com

Virgin Islands: 7th Annual Caribbean Beekeeping Congress; 2nd Caribbean Bee College
May 26-30, 2014-St. Croix

New Jersey Beekeepers Association Spring Meeting
Saturday, May 31, 2014
Richard Stockton State College

Galloway, NJ.
Visit www.njbeekeepers.org

June 2014

New Mexico: 2014 Pollinator North to South Spring Lecture Series featuring Dr. Wyatt Mangum sponsored by the Rocky Mountain Survivor Queenbee Cooperative
June 6, 2014 Albuquerque Bio Park 1-4pm
June 7 Tapetes de Lana, Mora, NM 10-12pm
June 7 Top Bar Beekeeping Field Practicum @ Mora Valley Apiaries 1:30-4:30pm

Ohio State Beekeepers Association
Featuring: Jerry Hayes and Keith DeLaPlane
June 6-7, 2014-Oxford, OH
www.ohiostatebeekeepers.org

Walter T. Kelley Field Day
June 7, 2014
807 West Main, Clarkson, KY
www.kelleybees.com
1-800-233-2899

Kansas: Northeastern Kansas Beekeepers Association "Bee Fun Day" with Dr. Tom Seeley
Sat, June 7, 2014 - All Day event.
<http://www.nekba.org/>

New Mexico: Charm School for Beekeepers: Bees as our Teachers: Hive Revisions
June 15, 2014 - El Prado-Taos, NM
Info: <http://ziaqueenbees.com/zia/taos-charm-school-for-beekeepers-series-drop-in-workshops/>

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 and sales tax by placing a pre-order before any meetings that we attend (excluding events in KY). We note on our website which meetings we are attending, and we'd love to meet you there to deliver your equipment.