

The Texas Beekeepers Association

Journal





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President's Report

from Chris Moore

Where does all the time go? Bees are supposed to be busy but then, so am I. So here's this commercial beekeeper's world:

Bees came back from California after pollinating almonds
Now stronger hives and we made splits
We moved homes (while the bees were in California – no, after they came back)
We put supers on the hives
My daughter graduated from High school and my son gets married
We pulled honey from the hives and then shipped them to Wisconsin to pollinate cranberries
My son leaves for Hillsong in Australia
We took bees to West Texas for pollination
Extracting of honey is underway
My daughter leaves for New York
And soon is the TBA Summer Clinic

I feel like a dog chasing my tail! We are still adding supers, but the honey flow is tapering off. This year has been better than the previous 3 for us, but still below our average prior to CCD. I don't think bees are living quite as long as they used to. Prior to CCD it was common that there were not just mustaches on the hives, but beards so big you couldn't see the bottom box. It's rare to see that kind of population now. Our annual losses were only 20% in the past while now they are at 40%+.

I had a customer tell me that he read that CCD was a farce and the bee population was fine. Yes, the bee population is fine, because beekeepers are making splits and raising new colonies like never before. We raise bees two to three times a year now. And still struggle to maintain our numbers.

Of course I am a commercial beekeeper, who in order to be profitable, must move bees to agricultural areas for pollination where the bees are subjected to various chemicals that are "safe for bees".

OK, enough already. Dr Jamie Ellis will be our Keynote speaker at the TBA Summer Clinic. I'm looking forward to seeing you all there and hearing his presentation. The one thing I have learned about beekeeping the past 20 years is that there are always new things to learn.

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Cover Picture by Dan Eudy



TEXAS BEEKEEPERS ASSOCIATION

Summer Clinic

June 30, 2018 9am - 5pm Conroe, TX

Lone Star Convention Center



Keynote Speaker

Dr. Jamie Ellis

Jamie Ellis is the Gahan Endowed Associate Professor of Entomology in the Department of Entomology and Nematology at the University of Florida and a PhD in Entomology from Rhodes University in South Africa. Dr. Ellis created the AFBEE program (African Bee Extension and Education Program), the UF, South Florida, Caribbean Bee Colleges, and the U of F Master Beekeeping Program.

Whether you're an aspiring beekeeper, a new beekeeper or an experienced beekeeper, there's a topic for you!

Getting Started With Bees: Hive Types
Managing Bees for Your Backyard Apiary
Common Pests and How to Cope
Honey Bee Health & Nutrition
Splitting Hives to Grow Your Apiary
Brood Diseases & Management
Utilizing Products of the Hive
Swarm Management and Capture
Pollen, Propolis, and Wax

Beekeeping as a Business: Honey Sales, Bee Removals, & Ag Exemptions Honey
Bee Hive Autopsy: How to Avoid Making the Same Mistake Twice

And Many More.....

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Texas Beekeepers Association

Summer Clinic

June 30th 2018

Session Classrooms, Tracks and Schedule

Venue Room Name	9-9:50	10-10:50	11-11:50	12-1:20	1:30-2:20	2:30-3:20	3:30-4:20	4:20-5
Main Bluebonnet Ballroom		Vendors / Honey Queens & Ambassadors			Vendors / Honey Queens & Ambassadors			
Ballroom 2 (Theme: Getting Started Series)		Simply Begin Beekeeping - Danny Weaver	Annual Management - What To Expect In a Beekeeper Year - Chari & James Elam		New Beekeepers Approach Hive Inspections - Cameron Crane	"Maintain" or GROW - Size - Ashley Ralph	Capturing and Keeping Swarms - Matt Fuller & James Elam	
Ballroom 3 (Theme: All About Bees)	WELCOME	Bee Nutrition & Feeding - Pierre Lau	Honey Bee Biology "Know Your Bees" - Lance Wilson		Practical Beekeeping - Les Crowder	The 10 Best Practices in Modern Beekeeping - Lance Wilson	Making increase without buying bees (Splits) - Chuck Reburn	
San Jacinto 2 (Theme: Mostly About Queens)	The How and Why of Effective Queen Management	Honey Bees As Superorganisms - Dr. Jamie Ellis	L U N C H	The birds and the bees: well, just the bees - Reproduction in Honey Bees - Dr. Jamie Ellis	When, Why, and How To Requeen - Liz Walsh	Rearing Queens for Personal Use - Danny Weaver	WRAP UP
San Jacinto 1 (Theme: Pests & Diseases)	KEYNOTE SPEAKER DR. JAMIE ELLIS	Fights About Mites - Ryan Giesecke	Brood Diseases - How to Recognize and Recover		Myth Busters: Common Misconceptions In Beekeeping - Chuck Reburn	"Organic" Treatments in Beekeeping - Tanya Phillips	Developing a strategy to control Varroa - Dr. Jamie Ellis
Yellow Rose 1&2 - (Theme: Bee Business)	What is killing our honey bees?	Bee Business Case Studies (Ag Exemptions, Pollination, Removals, Bee Sales, Hive Products) - Ashley Ralph	Hive Management for Production Strength Colonies - Jonathan Walker		Selling Bees and Nucs in Texas - Lauren Ward	Bootstrapping a Bee Business - Justin Russell	Removal Tips: Equipment Needs and How To Keep The Bees Alive - Ryan Giesecke	RAFFLE & DOOR PRIZES
Yellow Rose 3&4 - (Theme: The Bigger World Of Beekeeping)		Bees Connecting People & Improving Lives - Beekeeping Mission in Malawi, Africa - Janelle Cole	Utilizing Products of the Hive - Pollen, Propolis, Wax and Honey - Shelley Rice		Women in Beekeeping - Historical to Modern - Tanya Phillips	Apitherapy & The Science Behind It - Cyrus Nasr	Sustainable Agriculture and Beekeeping - Col. Kim Olson	
Yellow Rose 5&6 - (Theme: General Interest)		Pollination Ecology & Bee Botany - Phyllis Martin & Nanette Davis	What Every Beekeeper Should know About Honey Be Foraging - Lance Wilson		Info: Laws Affecting Beekeepers in Texas - Bill Baxter	The Art and Science of Mead Making - Chase Cohagen	Competing in Honey Shows, Judging Honey - Robin Young	

Topic	Speaker	Description
Keynote	<i>Dr. Jamie Ellis</i>	Dr. Ellis will discuss what is killing bees around the world and what can be done to reduce the losses.
Simply Begin Beekeeping	<i>Danny Weaver Lauren Ward</i>	This talk reviews the key aspects that affect you and your bees and will give you the confidence you need to get started.
Bee Nutrition & Feeding	<i>Pierre Lau</i>	A scientific approach on the nutrient needs for bees.
The How and Why of Effective Queen Management		Understanding the impact the queen has on the hive behavior through pheromones and genetics will make you a better beekeeper.
Fights About Mites	<i>Ryan Gieseke</i>	“Fights About Mites” is a somewhat satirical take on the finger-pointing from different styles of varroa management.
Bee Business Case Studies (Ag Exemptions, Pollination, Removals, Bee Sales, Hive Products)	<i>Ashley Ralph</i>	If you’re just getting started in your business, we’ll discuss a variety of business models that are common in beekeeping.
Bees Connecting People & Improving Lives -Beekeeping Mission in Malawi, Africa	<i>Janelle Cole</i>	This is a reflection of beekeeping in 3rd world countries and how beekeepers can help promote small business in the most unexpected places.
Pollination Ecology & Bee Botany	<i>Phyllis Martin Nanette Davis</i>	In this lecture, you will learn about the mating and reproductive habits of queen and drone honey bees.
Annual Management - What To Expect In a Beekeeper Year	<i>Chari Elam James Elam</i>	This presentation offers you an overview of beekeeping seasons and how to approach beekeeping differently in Spring, Summer, Fall, and Winter
Honey Bee Biology “Know Your Bees”	<i>Lance Wilson</i>	An in depth, yet simplified look at honey bee biology that helps you better understand how bees work.
Honey Bees As Superorganisms -	<i>Dr. Jamie Ellis</i>	In this lecture, the emergent properties of a honey bee colony will be discussed, with a focus on an argument for viewing the colony itself as an organism.
Brood Diseases - How to Recognize and Recover -	<i>Dan Aurell</i>	Learn how to recognize brood diseases early and how to recover when possible.
Hive Management for Production Strength Colonies -	<i>Jonathan Walker</i>	Learn tips and tricks for creating strong colonies that can take advantage of the honey flow and produce more bees.
Utilizing Products of the Hive - Pollen, Propolis, Wax and Honey -	<i>Shelley Rice</i>	This talk will tell you about the products, their traits and benefits, as well as how to put them to use for you either personally or in business.
Top Bar & Foundationless Beekeeping Techniques - Tips & Tricks		Learning how to keep bees in a horizontal style hive is often slightly different than what is discussed in most beekeeping classes.
New Beekeepers Approach Hive Inspections -	<i>Cameron Crane</i>	This class takes a look at different levels of beekeeping hive inspections.
Top 10 Best Beekeeping Practices -	<i>Lance Wilson</i>	This presentation is perfect for those looking to simplify their look at beekeeping into manageable practices that will make you a better beekeeper.
The birds and the bees: well, just the bees - Reproduction in Honey Bees -	<i>Dr. Jamie Ellis</i>	In this lecture, you will learn about the mating and reproductive habits of queen and drone honey bees.
Myth Busters: Common Misconceptions In Beekeeping -	<i>Chuck Reburn</i>	Take a clarifying journey through some of the most common misconceptions in beekeeping while learning how to become a better beekeeper.

Topic	Speaker	Description
Selling Bees and Nucs in Texas -	<i>Lauren Ward</i>	Discussions of legal requirements, best practices, and the ins and outs of preparing bees for sale.
Women in Beekeeping - Historical to Modern -	<i>Tanya Phillips</i>	Learning about the history of beekeeping from a feminine perspective.
Info: Laws Affecting Beekeepers in Texas	<i>Bill Baxter</i>	From permits to regulations, this class is an overview of how Texas beekeepers are affected by laws throughout the state.
“Maintain” or GROW - Managing Your Apiary Size -	<i>Ashley Ralph</i>	Everybody has a unique goal in their apiary, whether it’s to prevent swarming and stay the same size or grow exponentially each year.
When, Why, and How To Requeen -	<i>Liz Walsh</i>	Learn how to recognize when it may be time to requeen your hive and the steps to take when it’s time.
“Organic” Treatments in Beekeeping	<i>Tanya Phillips</i>	An organic approach to treating your hives with a view of Integrated Pest Management on the various levels.
Bootstrapping a Bee Business: Building a Bee Business On a Budget	<i>Justin Russell</i>	Building a bee business does not have to be done with a gigantic initial investment
Apitherapy & The Science Behind It	<i>Cyrus Nasr</i>	This is an overview of Apitherapy, what it is and how it’s used around the world.
The Art and Science of Mead Making	<i>Chase Cobagen</i>	Learn the art and science behind the making of sweet honey wine.
Capturing and Keeping Swarms	<i>Matt Fuller James Elam</i>	This topic describes swarm behavior and the difference between absconds and reproductive swarms.
Making increase without buying bees (Splits)	<i>Chuck Reburn</i>	An overview and detailed description of making splits, increasing your hives, and building your apiary with your own stock.
Rearing Queens for Personal Use	<i>Danny Weaver</i>	What to look for and how to raise your own queens.
Developing a strategy to control Varroa	<i>Dr. Jamie Ellis</i>	In this lecture, Varroa control will be discussed in light of the information provided in the guide.
Removal Tips: Equipment Needs and How To Keep The Bees Alive	<i>Ryan Giesecke</i>	This is a intro-level summary of bee removal situations for beekeepers. Introduces the concepts of cut outs, trap outs, and forced absconds.
Sustainable Agriculture and Beekeeping		Exploring the importance of bees to agriculture.
Competing in Honey Shows, Judging Honey	<i>Robin Young</i>	Texas Beekeepers Association has an annual honey show and this talk discusses the steps in preparing your honey and polishing your entry for success.

Register now online at texasbeekeepers.org or contact Shirley Doggett sdoggett@mindspring.com, 400 County Road 440, Thrall, TX 76578



The Brantley Column

from S. S. Brantley
East Texas Beekeepers Association

Honey harvest is coming soon. Depending on your location, the honey flow should continue through the middle of June. You should make plans to extract your honey by the latter part of June or by the middle of July. By then, our summer temperatures will let the honey flow freely from the frames during extraction.

Pull only frames that are at least 90% capped to be confident that your honey has a moisture content of 18% or less and will not ferment. Plan to extract as soon as possible after pulling the supers. Once off the hive, supers are vulnerable to Small Hive Beetle and Wax Moths. If you have to hold them overnight, try to keep them inside a garage or storage building and do not leave them outside.

How do you remove the bees from the supers to be extracted? There are several different methods beekeepers use to get the bees off the frames. The best method for you may depend on how many supers you plan to pull.

If you plan to harvest only a hive or two, the simplest method is to pull one frame at a time and brush off the bees. This is a slow process and not really suitable for pulling a lot of frames. Pull the frame, brush off the bees with a bee brush, and place it in some kind of closeable container to keep the bees from getting back on it. You can use a large plastic bin from Walmart or an empty Deep or Medium box with some kind of lid and bottom. For the bottom, I have some sheet metal pans with sides about an inch tall. They not only keep the bees out but catch any honey that drips from the frames. Some people make similar trays from ½ inch plywood with 1 x 2 sides. The same tray works as a lid or you can use an extra Outer Cover.

A Bee Escape Board can be placed below the super you want to remove if there is no brood in the super. The Bee Escape Board allows the bees to exit the super but not return. Be prepared to lift a full super of honey to put the escape board in place. Wait at least 24 hours after placing the board to allow the bees to find their way out of the super. Small Hive Beetle is a concern when using the escape board. Without the bees to hold the beetles in check, they are free to start laying

eggs and sliming the frames. Do not leave the escape board in place for more than a day before extracting. This process requires an escape board for each hive and multiple trips to the apiary.

If you are pulling multiple supers, a gasoline or battery powered leaf blower is a quick and effective way to blow the bees out of a complete super at one time. Place the super on top of the hive, resting on the short side so the frames are vertical and the bottom bars are toward the back of the hive. Standing behind the hive, blow the bees from the bottom bars toward the top bars. The bees will be blown into the air in front of the hive and will find their way back to the hive entrance. After blowing out the bees, be sure to cover the top and bottom of the super to keep the bees from flying back to their honey.

Beekeepers harvesting large numbers of supers often use a Fume Board to drive the bees from the super into the boxes below. A fume board is one of the quickest and most effective ways to clear bees out of your supers. A fume board is a 1-3/8 in. deep, wood-sided box with a metal top lined with a layer of cloth beneath and an open bottom. Spray the board with an agent such as Bee Go, Bee-Quick, or BeeDun and set the fume board on top of your supers. The bees will leave the super to escape the fumes in 7-10 minutes. The trick is to add enough of the fume agent to force the bees down out of the super but not so much as to drive them out of the hive.

Do you know the difference in Orientation Flights and Swarms? Orientation Flights are new bees exiting the hive for the first time and learning the orientation of the hive to the world. They often rush out of the entrance, crawl up the face of the hive, and fly in front of the hive, back and forth and up and down. They face the hive while flying to get their internal radar oriented so they can find their way home from foraging flights. Swarms issue from the hive "like water pouring out of a bucket", then swirl and circle in front of and above the hive as they seek to follow the swarming queen's pheromones as she flies. Eventually, they coalesce into a loose group and fly off in search of a new home.



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Pecan Honey ... Nuts and Intervention

from Robin Young, Metro Beekeepers Association

Hi! My name is Robin. I'm a "Bee-Aholic"

Many voices say, "Hi Robin."

One Spring, just after I had my third child, I went out harvesting honey. In the middle of harvesting honey, I started to get stung in the face and began freaking out. I was wearing my full body beekeeping suit. "How was I getting stung in the face?" I looked down and noticed a hole in my veil. I called to Jack (my husband), "You've got to close the hive up. They are in my suit".



I proceeded to hold my breath and walk briskly into the wind away from the hive. I started to black out...

"I've got to sit down! This is going to go badly if I don't sit down." I sat down. "Calm down, breathe" I told myself. My mind was racing.... "Breathe". "Wait! Am I blacking out because I'm freaking out or is this a reaction to the stings?" "Breathe...calm down...you can only get stung as many times as there are bees in your suit...Breathe." As I calmed down my vision started coming back. Then I counted the bees flying around in my veil as my hands tightly held the hole in my bonnet closed. Twelve...there are 12 bees in here with me. "Ok...you are OK!"

The next morning I got up and got the kids dressed for church. We were running late, but all the kids had showers and clean clothing. (Some days, just having your kids clean is a win...this was one of those days.) We get to church and I have baby Ronnie all swaddled in one arm and two year old Jesse holding my hand walking in with me. Jack had Janet's (Jesse's twin sister) hand in his hand as he held the door of the church open for all of us. I walked in first. People started coming up to me and asking me if I was ok. They asked me, a little to the side, if I needed to talk to someone.

I realized all of a sudden...They think Jack is beating me ... LOL. I get the kids off to Sunday school and go take a look

in the bathroom. WOW! I had 2 black eyes and my face was swollen but I still had a huge grin on my face. I love being a bee keeper. That was the moment I realized three things.

- 1.) I need to tell more people I'm a beekeeper.
- 2.) I need to do a better job of checking my equipment.
- 3.) I'm a "Bee-Aholic".

I would not be doing my proper duty as a "Bee-Aholic" if I did not pass on the location where we all meet to get counseling and some good laughs.

<https://www.facebook.com/groups/213925585653829/>

If you have a hard time finding them on Facebook, just do a search for "Bee-Aholics Anonymous". Just don't eat the doughnuts, they are for the bees.

For the past couple of years, I have driven to the Dadant warehouse in Paris Texas. I always try to call my order ahead of time, but half the time I forget and have to make my order when I get there. The money I save by driving there vs. paying postage is substantial. There are two lovely ladies that are always there taking my order and I can't help but stop and talk with them and listen to what's going on with other customers there. At times it seems like a coffee house where beekeepers hang out without the coffee. You will often catch the owner of that location there as well. They have asked me several times for my Pecan Honey recipe and I keep forgetting to bring it.

So for them and you my Bee Friends, here it is:



PECAN HONEY : Pecan Honey can be poured over ice-cream, cereal, pancakes, waffles, oat meal, pound cake, and just about anything you can think of. My favorite way to eat Pecan Honey is straight out of the jar.

Ingredients:

- 12 inch by 18 inch cookie sheet with a lip on it. (I buy mine from ACE-Mart Restaurant Supply)
- Enough half shelled pecans to fill the cookie sheet to the lip. (We own property with 280 pecan trees and in the Fall we get 5 gallon buckets with lids and fill them to the brim. We store them in our root cellar and it's amazing how long they last. During the winter months, when the market is closed, we shell pecans and put them in 1 gallon freezer bags and store them in the deep freeze until market season.)
- Glass 8oz honey jars. (I prefer glass jars with my pecan honey because I consider this a "specialty item" and I want it to have that extra shine a glass bottle has over a plastic one.)
- Your honey
- And an oven

Directions:

Pre heat your oven to 350 degrees. Fill your cookie sheet to the top lip as show in the picture on page 10. Then put the pan with pecans into the oven for 10 minutes. You are not trying to cook the pecans. You are trying to dry out the moisture to better preserve the nuts and for them to absorb the honey. Be careful not to burn them. Once they are done, pour them into another container to get them off the hot cookie sheet so the heating process stops.



Next, line up your clean jars and add a little honey at the bottom of the jar. Then fill the jar to the top with pecans.



Then start to slowly fill the jars with honey. This will take a bit to get the honey into the bottle and the air between the pecans out. Once full, cap and label your bottle.

Perfection!



I sell my 8 oz. jar of pecan honey for \$15. Till next time Bee Friends, enjoy going "nuts".

***Proverbs 16-24** Pleasant words are a honeycomb sweet to the soul and healing to the bone.*



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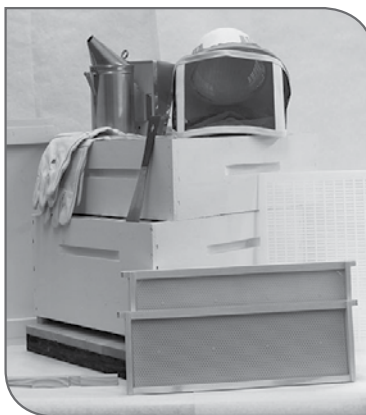
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Ants in or Around Your Hive

from Alex Payne, Texas A&M

My name is Alex Payne, and I am a second year PhD student in Dr. Rangel's Honey Bee Lab at Texas A&M University. My dissertation research is looking at how ants may be reservoirs of honey bee viruses and the possibility of virus transmission between these two eusocial insects. The main goal of my project is to identify which ant species in Texas are acting as reservoirs of honey bee viral pathogens and are contributing to the spread of disease.

Last year, I had help from some amazing beekeepers who were having ant issues with their hives who let me come out to their bee yards and take some of those pesky ants off their hands. With their help, I found some really cool results that showed that the acrobat ant (*Crematogaster sp.*) is a reservoir of Deformed Wing Virus! Other ant species may be reservoirs of honey bee pathogens, but I first need to expand my sampling area and size before I can determine that. This is where I need help from Texas beekeepers!

I am looking for any beekeepers who have been having issues with ants or who have noticed ants on their hive stands and/or entering their colonies. I would be collecting live ants from invaded hives along with a small number of bees in order to determine what viruses are present in both species. If you are interested in helping me with my research or if you have further questions regarding this subject, please contact me at alexnpayne@gmail.com. I really appreciate your consideration and help in this matter!

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2018 Texas Honey Queen

Abby Pettibon

Texas Beekeepers



Remembering the stories and insights of our Texas beekeepers is a helpful and encouraging way to learn about honey bees. I have been talking with various beekeepers from all over Texas and wanted to share what made them interested in beekeeping, how they got started, and why they have such a passion for honey bees. This month, we are going to learn about a man who started with one hive as a young boy and grew his apiary to over a thousand hives. His name is Blake Shook.

Blake started beekeeping at the age of twelve in 2002. He applied for the Collin County Hobby Beekeepers Association youth scholarship. Though Blake wasn't terribly interested in bees at the time, he had never won anything before and thought, "Hey, why not give it a try?." After winning the scholarship, Blake began attending classes and quickly fell in love with beekeeping. He commented saying, "I had no idea they would be so fascinating!" Blake remembers it taking every drop of willpower he had not to go look in his bees a few times each day. He loved just spending time looking through the hive, watching the bees work and looking at all of the intricate details. On the days he could not go into his hive, Blake would just watch the bees at the entrance.

Blake's hive produced 60lbs of honey the first year and promptly died that winter. But like a lot of us, who have made the same mistakes, he learned that there is a better way to keep healthy bees and still collect the honey. Suddenly, everyone wanted to purchase his pure Texas honey. Blake began increasing his hives to meet the demand. Throughout high school, he continued to add hives, and, by graduation, Blake had a few hundred hives. John Talbert, who was one of Blake's primary mentors, offered him a part-time job shortly after he finished the scholarship program. Blake says, "It was through working with John that I really began to be fascinated with the idea of becoming a commercial beekeeper. As I grew to have more and more hives, more and more people wanted honey, so I kept increasing." Then, in 2008, Blake graduated high school and decided to try beekeeping full time.

Today, Blake, together with his wife Kathleen and their beautiful little daughter, are the owners of Desert Creek

Honey Company. When I asked Blake how his company began, he replied, "It really began more by accident; just one beehive at a time." Desert Creek Honey strongly emphasizes honesty, integrity, and farm-to-table products. Besides producing Texas honey, Blake is also extremely involved with migratory beekeeping. He has moved his bees to pollinate a variety of crops all around America, including Texas, Minnesota, California, North Dakota, Wisconsin, and Montana. It requires tons of working all night, traveling all day, and it can be challenging logistically. Blake is essentially moving his entire operation all over the country multiple times per year. Blake says, "Moving my bees is equal parts exhausting and exciting. There is absolutely never a dull moment." Due primarily to beekeeping, he has been to 49 states. Blake says, "I've seen things and been places that never would have been possible apart from beekeeping. It is wonderful to meet people all around the country."

Throughout his years as a beekeeper, Blake has had some crazy experiences occur, like getting to watch air force one land next to one of our bee yards, and watching the president get out and into his motorcade and drive by. He has watched the northern lights from a bee yard, had a truckload of bees fall into a sinkhole, worked 52 hours straight and the list goes on. Being involved with honey bee clubs and associations has enabled Blake to share his experiences, grow his knowledge of beekeeping and encourage others to do the same. Some things Blake often shares with his fellow beekeepers is, "Be understanding. Commercial beekeeping and hobby beekeeping are very different. Both are respectable, fun, and very important, but very different. Having an understanding view of both is essential. Spend a lot of time learning. There is always more to know. Balance learning with experience. Take good care of your bees, keep the mites under control, not just for yourself, but for your neighbors as well. Join and stay involved with state and national associations, they are the lifeblood of the industry."

Blake Shook's story shows his passion for honey bees and a love for the beekeeping industry. A big thank you to Blake for sharing his story with all of us!

Greetings from Dr. Juliana Rangel at Texas A&M University

Assistant Professor of Apiculture, Department of Entomology, Texas A&M University

Dear TBA members,

I write this column after working with bees to create mating nucs and I have to say it was hot and muggy!!! But it is exciting to be able to go into hives and make queens for summer experiments, so I can't complain.

Speaking of queens, on Saturday, 5 May we held the 4th annual "Art of Queen Rearing" workshop at the Texas A&M University research apiary. We had 34 participants go through a series of lectures in the morning and longer hands-on activities in the afternoon (compared to previous years), all handled by myself and our staff. This event would not have been possible without the help of our many presenters and volunteers, including (in no particular order) E.T. (Gene) Ash, Liz Walsh, Pierre Lau, Alex Payne, Tonya Shepherd, Mike Coleman, Makaylee Crone, and Betty Hernandez. We received great reviews at the end of the day, and we hope to do it again next year.

That same week several members of the Rangel Lab drove to the University of Houston for the annual Houston Regional Ecology and Evolution Student Symposium. This year I had the honor of being invited as the Keynote Speaker for the event. The venue is a great opportunity for graduate and undergraduate students and postdocs from around Houston and beyond to share their work on topics related to evolution and ecology. Alex Payne received one of the awards for best presentation for her talk titled "Synergistic effects of in-hive miticides and agro-chemicals on honey bee (*Apis mellifera*) colony growth." It was our first time attending this event, and we would definitely go back next year.

On 18 May we had the pleasure of hosting a group of visitors from the Arbor Oaks Retirement Community in College Station. A total of 24 people drove to the RELIS campus to tour the Janice and John G. Thomas Honey Bee Facility, where our research apiary and the Texas Apiary Inspection Service offices are located. Among the visitors, we had the pleasure of touring with no other than Dr. Thomas and Mrs. Thomas themselves, which made the event even more special.

Finally, The latest Rangel Lab paper just came out online in the Journal of Apicultural Research, titled "Evaluation of the predatory mite *Stratiolaelaps scimitus* for the biological control of the honey bee ectoparasitic mite *Varroa destructor*." Juliana Rangel & Lauren Ward (2018) Journal of Apicultural Research, 57:3, 425-432, DOI: 10.1080/00218839.2018.1457864.

Abstract: To date, studies exploring effective biocontrol agents of the honey bee (*Apis mellifera*) ectoparasitic mite *Varroa destructor* have either yielded mixed results or have been totally unsuccessful. In this study, we explored the efficacy of the predatory mite *Stratiolaelaps scimitus* (Mesostigmata: Laelapidae) as a biological control agent against *V. destructor*. We tested the ability of *S. scimitus* to prey on varroa in vitro using glass vials with two varroa mites each that were exposed (or not) to *S. scimitus* for 24 h. Additionally, in field tests

conducted in Fall 2014 and Spring 2015, sets of honey bee colonies were either treated sequentially with 4-5 doses of 2,500 *S. scimitus* mites (experimental group), treated with the acaricide Apivar (positive control group), or left untreated (negative control group). In vials containing varroa and *S. scimitus* mites, 97.10% of the 69 varroa mites tested died 24 h after exposure to *S. scimitus*. In contrast, in vials that were not treated with *S. scimitus*, only 6.85% of the 73 varroa mites tested died. We did not find a significant effect of *S. scimitus* treatment on lowering varroa numbers in field colonies compared to the untreated control group in either trial. Our results show that *S. scimitus* can predate on varroa in the laboratory, but not in the field settings we tested. More experiments should be performed to determine the ideal environmental conditions and correct dosage needed in apiary settings for the potential use of *S. scimitus* as a biocontrol agent against the varroa mite.

That is all for now. If you have any questions please do not hesitate to email me at jrangel@tamu.edu. I am more easily reached via email than the phone. For up-to-date information regarding our program, or for new and interesting posts regarding bees and beekeeping, please visit us on Facebook at <https://www.facebook.com/TAMUhoneebeeclub>. We now have 3,042 followers, which crossed the 3,000-fan goal we were hoping to reach! Thank you all for your continuing support! I wish all of you a productive end of Spring with many adventures and fun times keeping bees, despite the humid and hot Texas weather!



Students in the queen rearing workshop practicing the "art" of grafting



Dr. John G. Thomas (left), Mrs. Janice Thomas (light blue shirt next to the handicapped parking sign), and 22 other folks from the Arbor Oaks Retirement Community who toured the Janice and John G. Thomas Honey Bee Facility



Group picture of the 34 beekeepers and many volunteers that participated in the 4th annual Art of Queen Rearing Workshop at the Rangel Bee Lab in Bryan, TX.



Photo Credit: Michelle Boerst



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Update from Texas Apiary Inspection Service

from Mary Reed, Chief Apiary Inspector



Greetings Texas beekeepers!

Where did the cool spring weather go?! I can't believe that temperatures are rising and that summer is practically upon us! A few weeks ago we took advantage of the spring weather and held our sixth exam session for the Texas Master Beekeeper Program. We had 24 beekeepers sit for and achieve the Apprentice level rank, 5 beekeepers achieve the Advanced level, and 3 beekeepers reach the Master level. After this session we are up to 287 participants in the program who have reached over 1.3 million people through outreach events! I am very proud of everyone who has participated in the program and I thank everyone who has helped made it a success. If you are interested in learning more about the Texas Master Beekeeper Program, I encourage you to look at the program's website (<https://masterbeekeeper.tamu.edu/>) and read the program requirements document that provides more detail about each level in the program (<https://masterbeekeeper.tamu.edu/program-requirements/>). Even if you're not interested in joining the program, there is a lot of great educational materials available on the website, some of which may be helpful to those who are just starting out in beekeeping. If you have any questions about the program, you can reach out to me (mary.reed@tamu.edu) or Lance Wilson (lance@beekeepinghelp.com).

For the rest of this article I'd like to give you an introduction to a honey bee pest that currently is not found in the United States, however if it were to be introduced it could cause extreme damage to the apiary industry. *Tropilaelaps* mite is a honey bee pest that is currently found across the Asian continent. It was originally found in Giant Honey Bee (*Apis dorsata*) colonies, but over time has been transmitted to *Apis mellifera* colonies. In many ways it can be compared to Varroa mites, however there are certain characteristics that allow this mite to outcompete Varroa mites in a honey bee colony.

Often times, when I am describing *Tropilaelaps* I use the phrase, "Varroa's skinnier, faster cousin." *Tropilaelaps* mites are smaller than Varroa mites and are much more efficient at reproducing and migrating within a colony. *Tropilaelaps* mites do feed on larvae for their own development purposes,

however they do not feed on adult worker bees. In fact, they don't even rely on the workers for transportation around the hive, rather they are able to scurry across the wax comb. For a better visual of their level of activity, I encourage you to watch the video included in the following article: <https://entomologytoday.org/2017/04/17/get-to-know-tropilaelaps-mites-another-serious-parasite-of-honey-bees/>. They are able to reproduce more rapidly than Varroa and can even mate outside of brood cells, which can result in *Tropilaelaps* outcompeting Varroa mites in a colony. Just like Varroa, *Tropilaelaps* vectors viruses between bees and may have a faster transmission rate due to their efficiency at reproducing and rapid movement within a colony.

One key characteristic of *Tropilaelaps* mites is their reliance on the brood for survival. It has been documented that these mites cannot survive without access to honey bee brood for longer than seven days. However, due to the increase in international shipments, there is still a possibility for *Tropilaelaps* to reach our borders and infest honey bee colonies. Due to this concern, for the past two years the Texas Apiary Inspection Service has conducted a project funded by the United States Department of Agriculture Animal and Plant Health Inspection Service (USDA APHIS) to monitor for the introduction of this pest. In this project swarm traps are placed around the borders of four major deep water ports in Texas with the aim of catching any swarms that come in on international ships. We analyze these swarms for not only the presence of *Tropilaelaps* mites, but also *Apis cerana* and the Giant Asian Hornet. We hope to continue this project in the future and potentially expand to other ports of entry.

There is still a lot of research that needs to be conducted in order to better understand this novel pest, however in the meantime I encourage you to learn more about *Tropilaelaps* and to report anything unusual you see in your hives. If you have any questions or concerns, you can reach our office at 979-845-9713 or tais@tamu.edu.



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Let's Raise Some Money!

from Michelle Boerst, Denton County Beekeepers Association

Every club has had a raffle at some point to raise money. And it's a great idea, as long as you understand all the state rules.

The Charitable Raffle Act became effective in Texas on January 1, 1990. Raffles are governed by the State Comptroller's Office. That means that since there are no federal laws, each state can set up their own regulations. When someone in your club says, "In State X, we had raffles all the time!", that does not mean you can have raffles in Texas all the time. As a matter of fact, Texas only allows two raffles per year for a charitable organization.

Let's go back to the beginning and define two things: charitable organizations and raffles.

1.) Charitable Organization = In Texas, a charitable organization is defined as a 501c, a religious organization, a nonprofit emergency medical service or a non-profit fire department. Since bee clubs don't fall under religious organizations, emergency services or fire departments, for the purpose of this article we will consider a charitable organization to be an organization with a 501c3 IRS determination.

2.) Raffle - a raffle is defined as the award of one or more prizes by chance or a single occasion among a single pool or group of persons who have paid or promised a thing of value for a ticket that represents a chance to win a prize.

Ok, so I'm a registered 501(c)3 and I want to sell tickets for a chance to win a prize. Let's go!

Well, hang on a minute. There's more rules. In fact, Texas has a LOT of rules. And if you don't follow the rules, the state of Texas considers an illegal raffle to be gambling. Your 501c3 must have been in existence for three years before you can have your first raffle. Remember, raffles are only allowed for charitable organizations.

In Texas, you may only have two raffles per calendar year and only one at a time. Remember, though, this is for paid tickets. If you give each guest at your monthly meeting a free ticket for a chance to win a prize--you're in the clear! You may not offer money as a prize. Money is considered paper or coin currency, or anything that can readily be converted to currency. Gift cards do not fall into the money category. Lottery tickets may be purchased and awarded as prizes.

The value of the prize may not exceed \$50,000 or \$250,000 if it's a residential dwelling. There is no limit on items donated to the organization, and lottery tickets for winnings higher than \$50,000 are acceptable.

Your organization must have each prize in its possession or ownership, or must post a bond for the full amount of the value of the prize with the county clerk of the county where the raffle will be held. Proceeds from a raffle ticket sales may only be used for the charitable purposes of the qualified organization.

Raffle tickets may not be advertised statewide or through paid advertisements. You may not use a raffle service, such as Rafflecopter to sell tickets. No one may be compensated directly or indirectly for organizing a raffle or for selling tickets. You may use a service to print raffle tickets as long as they are not also advertising statewide for you.

Speaking of printing tickets, not just any old ticket will work in a raffle. Tickets must state:

- 1) the name of the organization conducting the raffle;
- 2) the address of an organization or of a named officer of the organization;
- 3) the ticket price;
- 4) a general description of each prize having a value of more than \$10;
- 5) the date on which the raffle will be awarded.

Now you know why those old red tearable tickets are always on sale at the office supply store! They can't be used for raffles.

So you might be asking yourself, what's really the penalty for having a small raffle at my club meeting each month. That's a great question! In Texas, conducting an illegal raffle is a Class A misdemeanor for everyone involved in the planning. A Class A misdemeanor is the most serious classification of misdemeanor charge in most states and is punishable by a jail term of one year maximum.

But here's the real kicker: everyone who participates could receive a Class C misdemeanor. And buying a ticket is considered participating. Even though that's the lowest of criminal offenses in Texas, it carries a hefty maximum fine of \$500.

And one more thing! Don't forget the IRS. According to Notice 1340: *"A tax-exempt organization that sponsors raffles may be required to secure information about the winner(s) and*

file reports on the prizes with the Internal Revenue Service. The organization may also be required to withhold and remit federal income taxes on prizes."

If you're considering a fundraiser in your club, think about having an auction. The Texas state rules are not as restrictive.

For more information on charitable raffles in Texas, visit the Attorney General's site at <https://www.texasattorneygeneral.gov/cpd/charities-nonprofits-charitable-raffles>.

Happy fundraising, y'all!

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THE BUDS AND THE BEES Double Duty Honey Bee Plants

by Becky Bender, Texas Master Naturalist

Plants that serve our bees and other purposes too!

Beekeepers are good at multi-tasking. We have to be. In addition to beekeeping, many of us manage land, livestock or farms. We're committed to family life and volunteer in our communities – not to mention our day jobs! We stand ready, willing and able to wear many hats. But then you already know this because you're probably doing another task right now while reading this article.

Wouldn't it be nice if your landscape plants could multi-task too – if they could serve you and your bees? Well, they can! And you have lots of great plant choices because, unlike some pollinators who visit only a specific type of plant, honey bees are generalists. They visit many different varieties of plants within their foraging range to collect what their colony needs. Here's a list of some of my favorite "double duty" honey bee plants. To make the cut, the plants must not only excel at providing nectar or pollen for honey bees but also benefit my family, local wildlife or my goals for an attractive, low-maintenance landscape.



Blackberry Blooms

EDIBLE BEE PLANTS

Blackberries are very easy to grow, require minimal space compared to other fruit and will return year after year with a bounty of berries that are delicious right off the vine. The blackberry is pollinated by honey bees, bumblebees and solitary bees. While blackberry blossoms won't contribute to a surplus honey crop, they do provide honey bees with quality pollen and nectar. The Dewberry, a sprawling ground cover, is a similar species that grows wild and is well worth conserving for similar benefits to bees and its tiny edible blackberry. Most blackberry plants have thorns but thornless

varieties are available. Some of my favorite varieties of Texas-hearty blackberry starter plants are available by mail through Womack Nursery at www.womacknursery.com.



Diverse Privacy Hedge

PRIVACY HEDGES

Need a screen of hedges between you and a road, a neighbor, a propane tank or anything else you want to hide from view? Why not create a barrier that's also a buffet for your bees? Most privacy hedges I see are straight lines of evergreen cedar trees. Cedars provide little for bees. But the following trees and shrubs are evergreen or mostly evergreen with attractive blooms that nourish our bees with pollen or nectar while providing privacy. Rather than choosing one plant, use a variety for diversity and interest.

Good choices for small evergreen trees and shrubs that don't require much water or care are: Yaupon holly (*Ilex vomitoria*), Wax myrtle (*Morella cerifera*), Texas sage (*Leucophyllum frutescens*), Glossy abelia (*Abelia grandiflora*), and Evergreen sumac (*Rhus virens*), Agarita (*Mahonia trifoliolata*). Texas Mountain laurel (*Sophora secundiflora*) and Cherry laurel (*Prunus caroliniana*) are attractive, popular evergreens commonly used for screens but are considered to produce poisonous honey as well as have toxic affects on humans, pets and livestock.

Large evergreen trees can be effective placed behind or dispersed among those small trees and shrubs mentioned previously. Though cedars provide little for honey

bees, they are valuable evergreen landscape trees and may be used in the privacy screen mix. Live Oak trees (*Quercus virginiana*) are very large, long-lived trees that lose their leaves in late winter just as new leaves emerge, making the tree appear evergreen. Though not actually evergreen, Live Oaks are often used where privacy is desired, and bees collect pollen from its inconspicuous spring blooms.



Autumn Color of Aromatic Sumac

AUTUMN COLOR

When summer has passed and a lush green landscape is only a memory, a splash of autumn color brightens an otherwise drab landscape. Aromatic sumac (*Rhus aromatica*) and Smooth sumac (*Rhus glabra*) are two easy-to-grow, mid-size shrubs or small trees. In spring to early summer the female trees of these sumacs provide abundant pollen and tiny nectar blossoms where honey bees gather. In autumn they turn a dazzling red-orange color before losing their leaves. If “sumac” triggers your poison ivy fears, be assured that, while poison ivy is also in the Sumac plant family, these sumacs do not cause allergic reactions.



Caterpillar of Giant Swallowtail Butterfly

LIFE-LINE FOR WILDLIFE

Have you ever discovered pesky looking worms on your plants? How about holes in your leaves? Ever notice berries that seemingly vanish overnight? Congratulations! You may be a host to butterflies and migrating birds. Some of our

native trees and other plants do double duty as a spring nectar and pollen source for bees and a life-line for other wildlife. For example, the small Prickly Ash tree (*Zanthoxylum*), also called Toothache tree, is considered by some to be a scrubby, undesirable tree. But think again. Our native Prickly Ash tree produces lovely small clusters of yellow-green flowers on female trees in March and April which contribute to delicious honey. And the wildlife bonus? The tree is a larval host plant for the largest swallowtail butterfly, the beautiful Giant Swallowtail. Ugly caterpillars resembling bird droppings dine on the leaves and then morph into lovely Giant Swallowtail butterflies. In the fall, before losing its leaves, this tree has yet another duty: it produces ripe berries and seeds to sustain migrating birds.



Agarita Bloom

DEER DETERENTS

Very few plants are completely deer resistant, but some will deter deer damage if deer have other attractive plants to browse. Deer tend to avoid plants that have a scent, those that have tough, leathery, hairy or prickly leaves, and those with milky liquid or sap. For example, Agarita (*Mahonia trifoliata*) is an evergreen shrub that's well known to most Texans. The strong, spicy fragrance of the early spring yellow flowers attracts bees and provides nectar for delicious honey. But the fragrance and the spiny leaves deter deer. In summer bright red berries feed songbirds. Agarita does best in West Texas, The Hill Country, The Panhandle, Corpus Christi and The Valley areas. For a list of more plants that may deter deer browsing, send a request to the author's email below.

Maybe it's time your plants start working as hard and as smart as you do. Start thinking “double-duty” when you choose plants that will serve you and your bees for many years to come.

Your questions and comments are welcome and may be used in future articles. Please send to Becky Bender at RBenderRN@aol.com or www.BudsAndTheBees.com.



An Inside the Hive Look at Varroa destructor

from Ryan Giesecke,, Trinity Valley Beekeepers Association

I hope that we're all familiar with Varroa destructor, given that it is perhaps the single biggest challenge facing our bees present day; what we may not be familiar with is the bigger picture surrounding its advent into our hives or the details of its lifecycle. In this article I hope to address some of these possible omissions and better equip us to make intelligent and informed decisions regarding how to deal with Varroa destructor in our hives.

Many of us who are familiar with varroa probably tend to refer to them simply as "mites", which while great for brevity, is more than a little bit of a generalization. Mites live in a wide variety of habitats, and include decomposers, predators, and parasites. These little arachnids are among the most diverse and successful of all invertebrate groups. Some 48,200 species of mites have been described, with more than 170 species found in bee hives, and the vast majority of these mites are harmless to both humans and bees.

As beekeepers we tend to be most familiar with the harmful mites. Aside from varroa, another example of a harmful bee mite with which we may be familiar, would be Acarapis woodi-the tracheal mite. Hygienic resistances have developed to such an extent that these mites are very rarely a significant issue to Texas bees or beekeepers present day.

One example of a relatively neutral mite found in beehives is Aeroglyphus peregrinans, a bee specialist which lives in nests and feeds on dead bees. Melittiphis alvearius is an arguably somewhat beneficial mite found in the debris at the bottom of honey bee hives where it cleans up by feeding on dropped pollen; it does not disturb comb and even its brief phoretic periods have not been documented to have any negative impact on the bees. Lastly, Stratiolaelaps scimitus is a predatory mite with clearly beneficial tendencies, and has actually been experimented with as a biological control against varroa. S. scimitus will happily prey on varroa when introduced to a beehive, but their tendency to migrate out of the hive in favor of their natural environment in the soil has proven to prevent sustained effective use as a control agent.

Even when we say mites and mean varroa, we probably actually mean specifically Varroa destructor. There are actually five species of varroa mites which have been identified on various species of honey bees worldwide; only two have any place in a discussion of the problems in our hives, and one only due to issues with the nomenclature timeline. Varroa were first documented in the US in Fall of 1987, and Varroa destructor was described as distinct from Varroa jacobsoni by Anderson & Trueman in 2000. Thus any scientific references to this species before the turn of the century name it as Varroa jacobsoni, necessitating portions of our research which come

from older materials to be open to two species names even though we're only really addressing one species by modern definition, Varroa destructor, hereafter referred to as the colloquial "varroa mite" or "mite."

The varroa mite's primary host is Apis cerana, the Eastern Honey Bee. These mites were first documented (as Varroa jacobsoni) in Southeast Asia by Oudemans in 1904. Since their jump to Apis mellifera and subsequent spread around the globe they have devastated beekeeping worldwide, with the notable exception of Australia, where they have yet to spread into the managed population of Apis mellifera. Varroa feed off of the bees and brood, thus weakening their hosts, and transmit a slew of deadly viral issues as well. Reproduction takes place in brood cells within an infested colony, and phoretic mites spread from colony to colony, often aided by honey bee behavior surrounding the collapse of colonies under mite load.

A male mite's life cycle occurs entirely within the brood cell where it hatched. The haploid male eggs are laid first, and the male mites provide a mate for their siblings and any other female mites laid within the cell. They retain a pale coloration for their entire life, and their exoskeleton never fully hardens. They cannot survive outside of the controlled environment of the capped brood cell.

The female varroa mite's life cycle starts out similarly inside a brood cell, but upon maturity can be easily divided into two main periods; phoretic and reproductive activity. Upon emerging from a brood cell as a mature daughter, a female mite enters into the phoretic period. She has already mated in the cell she was hatched in, and is a mature adult, but is still lacking the energy needed to reach her full reproductive potential, which she will gain during phoretic feeding. A mature daughter mite placed artificially into a suitable brood cell without a phoretic period may successfully reproduce, but with a lower fertility than if she had progressed through her natural phoretic feeding period.

Phoretic mites prefer young nurse bees, a preference likely developing from both nutritional benefits of feeding on fat young nurse bees and the nurse bee's reliable proximity to larval cells which will soon be suitable for reproduction. Phoretic mites are usually tucked between exoskeleton segments on the underside of the worker's abdomen, thus invisible to a casual visual inspection of a hive. The length of the phoretic period may be as short as 4.5 days when brood is present in the hive, or as long as 6 months during winter when no brood is present in the hive.

The reproductive portion of a female mite's life cycle takes place entirely within capped brood cells, where they are again



invisible to a casual visual inspection. Having completed her phoretic period and reached the final stage of her life cycle, our female mite, now referred to as a “mother” or “foundress” mite, is in search of a suitable brood cell for reproduction. Foundress mites show a preference for *A. mellifera* drone brood over worker brood in a ratio of 9 to 1, and never invade queen cells, seeming to be somewhat repelled by royal jelly. Upon finding a larval cell that is soon to be capped, the foundress mite drops off of a nurse bee and crawls into the cell, where she will bury herself in the brood food beneath the larva. Fully immersed at the bottom of the cell, with only a breathing tube raised above food level, she waits.

Shortly after capping, the bee larva devours the last of the nutrients in the cell, thereby releasing the female mite. At this point the foundress mite begins to lay one egg about every 30 hours. The first egg is unfertilized and male; the rest are female as a result of fertilization by the foundress with genetic material from her mating early in her life cycle. The females have to mate inside the cell in order to emerge as viable daughters; reaching maturity and mating takes about 10.5 days from when the egg is laid. Timeline is important here, and it rapidly becomes clear why the extra few days provided by drone brood development are so preferred by reproductive mites. The typical number of viable offspring in a worker cell with a 21 day cycle is between one and two; the typical number of viable offspring in a drone cell with a 24 day cycle is between three and four. The overall longevity of a female varroa mite is highly variable, primarily as a result of the variability of the phoretic period, but female mites living when brood is present in the hive have an average life expectancy of 27 days.

Despite our tendency to see mites as the problem impacting our hive, the reality is that they are actually a vector for more negative impact than they themselves comprise. Varroa mites transmit numerous viral diseases which display themselves in a variety of detrimental ways within a honey bee population. These viral contagions are spread to pupae by reproductive mites within the cell, as well as to adult bees by phoretic mites.

While exploring all of these viral issues in great detail goes beyond the scope of this article it is worth mentioning Deformed Wing Virus (“DWV”) specifically. The improperly developed wings associated with it are often easier to spot in hive inspections than the varroa mites, and when found in abundance are a clear sign of a mite infestation spiraling out of control.

Also worth watching for in hive inspections is Parasitic Mite Syndrome (“PMS”), a brood condition associated with varroa mite problems. PMS is characterized by a spotty brood pattern, chewed down larvae in open cells, a decreased adult population, supercedure cells, and eventually even mites visibly present on pupal remains and on comb.

Having covered what’s occurring within a colony infested by varroa mites, we should also be aware of how varroa mites spread from one hive to the next. Absconding and swarming move bees and their phoretic mites around the countryside. Worker drift can move phoretic mites into neighboring colonies; workers from infested colonies are more drift-prone than workers from uninfested colonies. Though mites do not prefer drones as a phoretic host, drone movement from one colony to the next may account for some degree of transmission. Mites have also been shown capable of “flower-hopping”; if dislodged onto a flower by one host they will jump onto the next host that happens by. Early studies of their spread across Europe showed that without human intervention mites took about three months to spread to colonies within about four miles.

Perhaps most significantly of all, robbing behavior comes into play as a means of spreading mites from colonies collapsing under mite load to new host colonies in the area. This phenomenon has been referred to as a “mite bomb.” A mite bomb is created when mite levels in a previously healthy colony start to rise; as the mite population increases, the bee population starts to shrink. The colony starts to collapse under mite load, and its stores become subject to robbing by neighboring hives. Mites begin to be carried back to neighboring colonies on robber bees. Before long the infested colony goes queenless, and as it continues to get robbed the queenless workers may start to drift off after the robbers into surrounding colonies. Soon the originally infested colony is dead and surrounding colonies are left with higher mite loads. As this process repeats it also selects for progressively more virulent mites, as new hosts are always readily available when the previous host is killed by parasitism.

I do think we have to be realistic about the “mite bomb” effect, and not allow sensationalizing and finger-pointing to become overly prevalent. The reality is that all colonies have mites; it’s just a question of how many. Therefore we would have to admit that any colony that dies creates a mite bomb to some degree. The hive density in the surrounding area would play a major role in the impact on any given hive; high hive densities lessen the individual impact of a mite bomb on any individual colony and low hive densities increase the impact on each neighboring hive.

The reality is that mite bombs are going to happen, be they from feral colonies, your neighbors’ hives, or from your own hive that created a mite bomb when hit by the mite population from the death of a neighboring colony. Assuming colony loss rates in your area are anything above 0%, any management plan that cannot weather mite bombs is doomed to failure. Careful consideration of genetic resistance, mite counts, and Integrated Pest Management (“IPM”) measures are key components of any beekeeper’s mite bomb survival plan, and I hope this article has left us all with a little greater understanding on which to base our choices in these matters.

Texas Honey Bee Education Association Update

“Setting Priorities for 2018 - Beekeeper Education”



from Roger Farr - Chairperson

A long time ago in a galaxy far, far away, I was a young aspiring engineer and business man. The corporate president asked me to present our business strategy to the board of directors. During the presentation, which I thought was going rather well, the Chairman stopped me cold. “Mr. Farr” he said, “Your strategy is so chock full of things you plan to do that it feels a lot like you are trying to boil the ocean. Get together with your team to consolidate and simplify what you want to do. Then come see me with no more than three things you want to accomplish in the next year. You are dismissed!”

That lesson rang in my mind as the board of the Texas Honey Bee Education Association (THBEA) began to grapple with what we really wanted to accomplish in 2018. We had five purpose areas we could work in according to our foundational documents, but which one would have the greatest impact in the shortest amount of time? We certainly don’t have time to try to boil the ocean! As the seven board members of THBEA discussed this question, it soon became clear that we all were in agreement to pursue the purpose area of “strengthening beekeepers’ skills through educational programs.”

Next, we had to suggest and agree upon what specifically would we work on and which board member would do or oversee the work to make the purpose area a reality. Recall that THBEA raises funds and then pursues projects, either by doing work itself, or providing grant money to other individuals or organization to do work on THBEA’s behalf. Here are the four projects we will pursue in 2018 and on into 2019, in priority order, along with the Primary Person Responsible (PPR) board member and their contact information.

1. Support and provide grant funding for the existing TBA Honey Queen program. (Roger Farr, rdfarr@gmail.com)
2. Develop and distribute materials on Best Beekeeping Practices for Texas beekeepers. (Chris Moore, moorehoneyfarm@gmail.com)
3. Encourage and provide grant funding for programs designed to assist beekeepers ages 13 to 21 years to become involved in beekeeping and to share their knowledge with others. (Larry Hoehne, lhoehne@swbell.net)
4. Improve the quality of speakers and education materials available to TBA-member associations. (Lisa Dittfurth, dittfurths@gmail.com)

If you are interested in being involved in any of these four areas, please contact the Primary Person Responsible to indicate your interest. Over the next months, we will be working to flesh out these projects by developing materials and specifying future grant opportunities for beekeepers and beekeeping associations. We will post progress and results at THBEA’s website, www.thbea.com.

On the fundraising side of THBEA, we’ve identified different activities you will see us pursue in 2018 and going forward. Specifics on how you can get involved to further THBEA’s objectives will be coming your way shortly. Our goal for 2018 is to raise \$30,000. If you’d like to donate now to support THBEA projects to bolster beekeeper education there are three ways to give:

- send a cash contribution, by check made out to the Texas Honey Bee Education Association, to THBEA, 400 County Road 440, Thrall, TX 76578,
- donate publicly-traded marketable securities by contacting Leesa Hyder, THBEA treasurer, at execsec@texasbeekeepers.org, for details, and
- visit the THBEA website at www.thbea.com, to make a donation via PayPal.

Lastly, THBEA is in the process of distributing \$7000 of grant funds to beekeepers in affected counties due to the weather events of 2017. The individuals receiving the grants were able to purchase a maximum of two nucleus hives from designated suppliers at vastly discounted prices to assist in rebuilding their apiaries. Many of the grantees have expressed gratefulness to THBEA, and to Bayer U.S., the corporation providing the funds to THBEA, for their generosity and assistance in a time of need.

THBEA is a non-member, 501 (c) (3) organization, governed by a Board of Directors. THBEA’s current directors, appointed by the TBA Executive Committee are Lisa Dittfurth, Chris Doggett, Roger Farr, Larry Hoehne, Leesa Hyder, Chris Moore and Blake Shook.

I hope you will join me and the THBEA board to make THBEA a success for beekeeping and beekeepers’ education in Texas! I’d love to hear your ideas; you can contact me at rdfarr@gmail.com.

Visit our table at the TBA Summer Clinic; help fill the super box with your contributions for beekeeper education.



Bee Hive Thermal Industries, Breaking News, Saving Honey Bees Organically

John Hicks

936.718.3471

john@beehivethermalindustries.com

An organic and noninvasive solution targeting and killing *Varroa* mite infestations, that are killing honey bees, developed by joined forces of, Bee Hive Thermal Industries (www.beehivethermalindustries.com) and OVEN Industries (www.ovenind.com), experts in temperature control.

You may have heard that "honey bees are in trouble". There are a few reasons we could list in this dilemma and most experts will most likely agree that the *Varroa* mite is at the top of that list. Bee Hive Thermal Industries designed this Thermal System utilizing an industrial grade heater blanket and electronic controls which are easily installed and removed from the hive. The end goal of the product is to raise the temperature of the hive to a programmed temperature, killing the mites without harming the bees based on studies done in Europe. To see the game changing product in action, click the link and view the video. <https://youtu.be/D3l4G2Ws91o>

In the fight against today's *Varroa* mites, beekeepers are often, if not always, resorting to pesticides as the solution. Bees have many other predators and hardships to endure, including weather related issues such as cold temperatures, moisture and diseases. The effect of the *Varroa* on the overall colony is paralyzing to both general activity and honey production within the hive. This revolutionary product is showing positive results in killing and controlling mites and hive beetles, with only a few applications annually.

Bee Hive Thermal Industries, located in beautiful Pageland, SC, is recognized as a global leader in the design, development and distribution of organically suitable products for the bee industry globally. The company strives daily to provide unique and safe solutions for beekeepers everywhere, providing them with high quality, value and reliability. Caring for our bees is very important to the mission of Bee Hive Thermal Industries. Visit our website www.beehivethermalindustries.com



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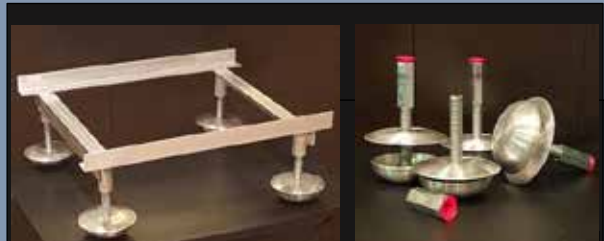
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Cold Storage for Honey Bee Colonies Breaks the Brood Cycle and Makes Varroa Treatments More Effective. How Cool!!



The black bump on this honey bee's back is a varroa mite. Mites weaken bees' immune systems, transmit viruses, and siphon off nutrients. Photo by Scott Bauer, USDA Agricultural Research Service.

Saving honey bees is easier when varroa mite infestation is reduced. WSU researchers are hoping mid-season hibernation can help in the fight against the mighty mites.

Varroa mites are pests that weaken bees' immune systems, transmit viruses and siphon off nutrients. They're a huge factor in colony collapse around the country.

"Most treatments only kill varroa on adult bees, and are generally only effective for three days," said Brandon Hopkins, assistant professor of entomology and manager of the WSU bee program. "But a lot of mites live in the brood, which are under a wax cap that treatments can't touch. Those bees hatch out and are already afflicted."

Currently, treating for mites requires three treatments over a 21-day period to make sure you treat all the new bees that come out infested with mites.

These treatments are difficult and expensive because beekeepers must treat all their colonies on a specific schedule. It's very labor intensive to treat thousands of colonies by hand three times at precise timing cycles, Hopkins said.

Cold storage

Bees don't truly hibernate, but they do change their behavior in winter. Queens stop laying eggs, so no new 'brood' is created at that time.

Last August, WSU researchers put 200 honey bee colonies into refrigerated storage. This is a time when bees are still active, but have finished making honey for the season, and there are no crops that require pollination. It's also when beekeepers normally do a round of mite treatments.

By placing colonies in refrigerators, the queen stops laying new eggs, which stops the production of brood. When the bees come out of refrigeration, there is no 'capped brood'.

At that point, Hopkins and his team apply a varroa treatment on the adult bees.

The initial results were overwhelmingly positive. Researchers found an average of five mites per 100 bees on the control colonies (not refrigerated) one month after the normal three-cycle mite treatment.

The refrigerated colonies had an average of 0.2 mites per 100 bees one month after the single mite treatment.

"That's a significant decrease," Hopkins said. "Refrigeration is expensive, so we need to do more work to prove the cost is worth it for beekeepers, but we're really excited so far."

Additionally, the infestation levels varied tremendously from colony to colony in the control samples. That's because of the difficulty in treating colonies consistently over three cycles. The colonies that had the refrigeration treatment had consistent mite numbers with little variation.

Doubling down

After hearing about this research, a few beekeepers approached the WSU scientists about doing a similar round of refrigeration in the early spring. Most commercial beekeepers in the U.S. take their colonies to California for almond pollination in February and March. But there's a time gap between the end of the almond pollination season and the start of pollination season in the northwest.

"Beekeepers generally have two periods of time for mite treatments, before the bees make honey and after," Hopkins said.

Once bees have mites, the infestation increases during the pollination and honey production months.

"But if they can start with low mite numbers, the bees are healthier during the honey production period," Hopkins said. "A lot of varroa damage comes while the bees are making honey."

Calculated risk with 100 colonies

This spring, Belliston Bros., a commercial Idaho beekeeper, donated 100 honey bee colonies to do a refrigeration study just like the one done in August last year.

"It's a big risk for them," Hopkins said. "But if it works, beekeepers would have significantly better varroa control while using fewer chemicals. And they'll have better colony survival during the following pollinating season. It's a win all-around."

Nobody really knows how bees will react to being put back into their winter mode in what is normally the middle of their active season, he said. But that's what science is all about. And if this works, it could be a major and environmentally sound victory in the great varroa mite battle that beekeepers have been waging for decades.

"We're hopeful," Hopkins said. "We won't have results back for several months, but we're excited we may have a way to help beekeepers keep their colonies strong and stable."

Article by Scott Weybright - College of Agricultural, Human and Natural Resource Sciences from Catch The Buzz



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His Assistant's Perspective

(a story about women's protective beekeeping equipment)

"The Continuing Journey of Two Fifth-Year Small-Scale Beekeepers"

by Roger and Sue Farr, Caddo Trace Beekeeping Association (CTBA),
Mount Pleasant, Texas;
Master Level Beekeeper - Texas Master Beekeeper Program (Roger)



Photo - Hudson Old, East Texas Journal Photography

My husband Roger and I took beekeeping classes together almost six years ago, and we enthusiastically decided to keep bees; more specifically, Roger decided to keep bees, and I decided to assist him. That decision haunts me to this day. I never committed to learn to become a beekeeper; I committed to be my husband's assistant as he keeps bees. There is a world of difference in those two commitments. This article is about those differences and how I have grown from an "assistant" to a "beekeeper" with respect to my protective gear.

One major difference was my attitude toward beekeeping apparel. I thought, "Hey, since I'm out there only as his assistant, we don't need to spend extra money on great gear for me." Oh, I was so wrong! At that time, I had no idea that the protection problems are different for women, and the choices are limited.

Our beekeeping instructors told us to wear a protective bee jacket with jeans. I zipped up my bee jacket over my cute jeans, strolled to the apiary, and received more than a dozen stings on my lower back and seat in just a few minutes. I quickly realized the importance of wearing sturdy pants when working with bees, so next time out, I wore the women's Carhartt pants I use for yard work. I can report that no bees stung me through the famous double fronts; however, they did quickly find the tight areas around my hips and thighs, and I was miserable. I purchased a larger size, but I realized that most (all?) women's pants are made to fit snugly around hips and thighs, and the larger size simply meant that I now had more exposed area open in back due to their low rise and gapping waist. I began to be afraid to be with the bees. That first year might well have been my last without Roger's encouragement to persevere.

Since I was "only the assistant" (my words, not his), I initially purchased an inexpensive nylon beekeeping jacket with a detachable veil and hat. It did not fit well, did not protect me from stings, and was uncomfortably hot; other than that, it was "fine." I wore that nylon jacket for this first year until Roger felt compassion and purchased a ventilated mesh jacket for me as a gift. I liked it so well, Roger purchased one for himself. Year Two was better!

Year Three was the year of the spring rain-rain-rain-rain-rain in NE Texas. I could not keep shoes or boots dry, so I resorted to wearing athletic shoes that I could throw in the washer and dryer. This worked until I dropped a frame of bees and several stung my feet and toes. Roger helped me select a pair of lightweight hiking boots, and he presented me with Velcro bands to seal my pant legs to the boots and several pair of cute hiking socks. Better and better!

Year Four was the year of the gloves. Honestly, how many pairs of beekeeping gloves does one beekeeper need? Turns out, more than I realized. The original leather gloves had worn spots, and eventually, I could not repair them. The goatskin ones fit my hands and fingers well, but the mesh at the wrists allowed some stingers to reach me. We finally found a pair of leather gloves with canvas gauntlets that work for me. Maybe I was getting the hang of this.

Year Five was when I said good-bye to tight pants. I needed sturdy pants with a longer rise, more room in the seat and thighs, and long enough inseams for this 6'0" tall assistant; those criteria are not available in my NE corner of Texas. I gathered my courage and researched online for men's pants, took my measurements, ordered six different pairs, and waited for the UPS delivery man. Two pairs worked, but one is a very dark brown, and the bees did not love that. I switched to the light-tan color, cinched up the too-large (men's) waist with a belt, folded the hems into boots, and enjoyed our fifth year of beekeeping.

This is our sixth year of beekeeping and my first as more than "his assistant." I wanted to enjoy the time in our apiary with my husband and our mentorship with new beekeepers, but the protective gear was still a problem. I reached a pivotal point when we opened a hive in late February to look for brood. The girls were not happy, and they let us know it by even stinging the top of Roger's head through the fabric integrated hat. I dropped my note pad, told Roger, "I'm done!" and quickly walked away. I have become increasingly reactive to bee stings, so that misadventure caused me to purchase a full ventilated bee suit. I did not want to spend the money, and I don't like looking like – well, you are beekeepers, so you understand. I'm glad I made the investment. I really am enjoying my new "courage" that comes from feeling protected in the apiary. Last week, I only received one sting; it was on my jaw, caused when I leaned forward over a hive, and the mesh was tight against my face. Roger's comment: "Sue, keep your head up." Good advice in beekeeping and in life.

I have come a long way from "just getting by" and floundering in cheap gear because I'm "only his assistant." I am a beekeeper, and I'm in it for the long haul.

If you have sound counsel about protective gear from women, e-mail me, and we'll chat. I'm ready to learn from you as well!

We'd love to hear about your beekeeping adventures.

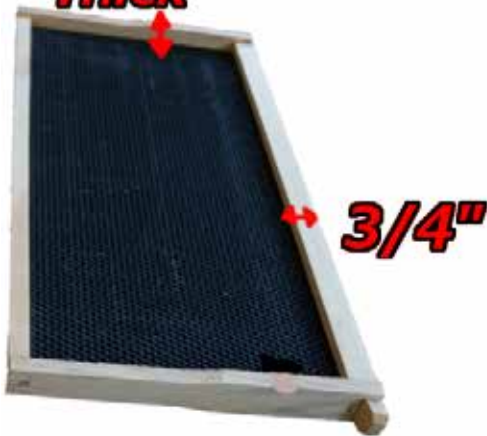
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Winter Work

from Micheal Mathews, Fayette County Beekeepers

As I write this in mid-May, the yaupon has come and gone, and the area around the bee yard is covered with wildflowers. It seems that every Horse Mint blossom has a bee attending to it. The spring business of splits, comb management and the first honey extraction is done.

Earlier in the spring, three weeks of cold weekends meant that we skipped thorough hive inspections at a critical time in the season. Luckily, our two top bar splits from last year had established themselves well, with plenty of brood and some very pretty honey comb. A weak colony, one that we requeened twice last year, survived the winter and has rebounded. All of our Langstroth hives are thriving, too.

As always, the cost of ignoring hive inspections in the early spring is cross combing, but fortunately only one of our top bar hives had any serious cross comb we needed to mend. One of last year's splits had built comb on every bar to the follower board and was building new comb behind it. Fortunately, nice weather followed and it took no more than a day's work to catch up and get started on a new project.

Top Bar Super Follow Up

In an earlier article I had written about a the construction of a top bar super for Langstroth hives. Of course top bar beekeeping can be done in any Langstroth super. Simply use only the top bar of the frame with a strip of foundation to give the bees a place to attach comb. But as I explained, I needed a way to easily split from my top bar hives into a standard Langstroth hive. This spring we are testing our top bar super for the first time.

The first step in splitting our top bar into a Langstroth was to setup a Langstroth brood box in a eight frame medium on a bottom board. Instead of an entrance reducer we placed a robbing screen on the front. It serves the same purpose and in the rare event that we do get robbing, it is already in place. The top bar super is placed above this brood box. We use shims to fill any gaps between the bars until the split becomes established. During this period the only way the bees can leave the hive is through the brood box we want them to adopt. Later in the summer, when the bees have moved down into the medium, we will remove the shims to allow them ventilation.

After acquiring a new queen we began inspecting our top bar hives for suitable brood comb and stores for a split. We moved brood comb with nurse bees along with stores from one of our strongest colonies into the new top bar super and then attached the queen cage with a rubber band to the bottom of

a wide spacer as we would with any top bar split.



Top Bar Super

Our results so far? A week after splitting the queen was free and the colony was very active. Two weeks later the colony was still small, but busy building out new comb in the brood box below. With a little feeding and cooperation from the weather and our garden, we hope this split will be successful.

Top Bar Honey Extraction

When we started beekeeping we chose top bar in part because it did not require special equipment, just a smoker, a suit and a kitchen knife. For new beekeepers who are not sure of their beekeeping future, the idea of spending on hive tools, frame pullers, extractors, strainers, uncappers, etc. make the idea of a top bar with its low overhead appealing.

Honey extraction for top bar beekeepers is fairly straight forward. While the tools and methods are a varied as the rest of top bar, beekeepers have two options depending on if they want to package comb honey or strained honey. In a given year we will make a little of both to give away to friends and family.

While there are a number of products on the market that can be used to collect honey in the comb we rely on a simple method that includes items found around our home. A one gallon plastic bag, a bit of cheese cloth and a funnel make up our extractor. We also use one or two cookie sheets and a couple of binder clips. A cutter we purchased a couple of years

later is one of the few tools we have purchased for our top bar. Finally we found that using a box the size of the bars, in this case an old trap, was an easy way to move the bars without damaging the comb.

Our extraction begins during a hive inspection. Once we have determined that one of our colonies has enough stores for us to take some comb, we bring in the box we use to move the comb. Since the bars fit closely into the box we can brush off the bees and place the comb into the box knowing that it will not collect more bees before we can take it indoors. We prepare the box with empty bars so we have a ready replacement for the bars we remove from the hive and filler to keep the bees out of the box.



Top Bar Box

At the hive, before we brush off the bees we gently tap the bar so that most of the bees will fall into the hive. We learned a lesson this time when one of the guides separated from the bar and the heavy comb fell to the bottom of the hive. Always pin the guide to the bar with a nail gun. In a hot climate with heavy honey comb, glue is not always enough. We continued our inspection until we had selected the bars we wanted to process.



Box

Once indoors the extraction can begin. We begin by selecting the comb that we want to use for comb honey. We use the comb cutter to cut squares that fit neatly into the square boxes from our bee supplier. We are careful to cut these pieces on the cookie sheet so that any honey that spills is contained. The trapezoid shaped comb does not cut evenly into squares so the odd edges either end up in jars or go into the plastic bag for strained honey.



*Cutting
Comb
Honey*

Extracting honey using a plastic bag is easy and not too messy. First, we fill the bag with honey comb and then seal it. Next we hang the bag from a corner. Generally my wife will have the bag hanging from a cabinet pull in our kitchen, but to take better photos we set an example up in my shop. In the example below we are using a large binder clip to hang a bag from a photographer's tripod so that one corner hangs down. Next we crush the comb in the bag and then cut a half inch corner from the low corner of the bag.



Extracting with a Plastic Bag

To control the flow of honey we use another clip at the cut to limit the width. Beneath the bag we place a funnel with cheese cloth to strain the honey before we catch it in a plastic pitcher. Once the honey has started to flow, we check that the flow from the bag matches the flow through the funnel. It is important that the flow is slow enough not to overflow the funnel. At intervals between fifteen minutes and half an hour we check to make sure the cut and the funnel have not clogged with crushed comb.

Once we have a pitcher full of honey we package it in sanitized mason jars or add a bit to the comb honey. Finally all of the remaining comb is melted for wax. We have found that a half pint jar fits well into a TBA mug and together they are a gift that never fails to please.



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Texas Bee Laws - 131 Committee Update

from Dennis Gray and Ashley Ralph

At the 2017 TBA Annual Convention, the membership voted to evaluate the possibility of updating the bee laws in Texas (Ag Code Chapter 131, herein "131"). Accordingly, Chris Moore appointed Tanya Phillips to lead a committee to examine the question of whether to proceed with updating the law or not. In April, the committee resolved that we would recommend TBA proceed with 131 updates, and Ashley Ralph took the reigns of the committee to hash out what changes might be possible in order to present some possible changes along with that recommendation at the Business Meeting at the Annual Convention this upcoming November.

Judith McGeary, Executive Director of the Farm and Ranch Freedom Alliance reached out to TBA, offering to help facilitate the organization of issues as interested stakeholders. This outreach reflected the results of historical talks on 131. The legacy issues revolved largely around a single point: establishing due process appeals for actions of the Chief Apiary Inspector (CAI).

In the ashes of HB 1293, a regulatory board was proposed, and supported by a survey conducted by FARFA. However, this regulatory board faced serious opposition from all sides. Parties have agreed to come together on this issue and others in order to come up with solutions that are fair and good protections for beekeepers. The general approach that is emerging attempts to legally limit the CAI to quarantine and destruction for a certain subset of pests/diseases and provides for review of CAI orders by an expert appeals committee. Although we've had great CAI's in recent history, this would allow a beekeeper more protection from destruction/quarantine in the event that the CAI was ever the type to abuse the power entrusted to them.

With this approach, the CAI would no longer be authorized to issue orders regarding endemic (already existing) pests or diseases: Small Hive Beetles, Varroa Mites, Moths, etc. And in the event the CAI takes some action against AFB or (potentially) similarly characterized diseases, the beekeeper would have the right to appeal the decision before an appeals board. The CAI would also be specifically prohibited from declaring sub-species of honey bees as pests as this was a big concern for beekeepers in the past as well.

The appeals board make-up remains a point of question. Who will be on the board? And who will appoint those members of the board? These are the two critical questions under debate at press time. We have members of the TBA committee reaching out to honey bee related officials and FARFA has reached out to a legislator to ask official questions regarding who may serve on the board, and who may make appointments in general. These official answers may provide important guidance to the talks on this issue. The preliminary proposal is that three or four members would be academic experts in pests, diseases, and remedies, and three or four positions would be filled by beekeepers of each size (i.e. small-scale, sideline, commercial). This is a very preliminary proposal and we're still gathering feedback from small and large beekeepers on what the committee makeup may be. One thing everybody seems to agree on is that an appeals board is a

good and necessary approach to providing more protection to beekeepers.

At the same time, the committee is working to identify areas of consensus for other changes and we are looking for feedback. At this time, we suspect there is wide-spread agreement on some issues, such as these:

- reduction in the number of permits
- voluntary apiary registration by county
- expansion of "bee equipment" for structural removal work
- establish due process for beekeepers affected by 131-related actions

Moving forward our committee will continue to engage with all stakeholders with concerns about proposed changes. As of this time, the committee is working to assemble a proposal suitable for circulation to stakeholders, including TBA members. Some of our work is based upon the data from a prior survey, but additional survey work is needed and is currently in the works. You should watch your email box for this survey soon.

As we conclude the "identify issues" phase of this work, we will continue to identify stakeholders with objections or other concerns. We are eager to engage with these objections now, while we have plenty of time to work through them all. This can not be emphasized enough. We need to hear from any beekeeper with specific concerns about 131.

The committee is particularly concerned about the lack of participation in the process by commercial beekeepers. FARFA's survey data reflects this lack of participation too. If you're a commercial beekeeper, we need to hear from you. If you know commercial beekeepers, please point them in our direction.

The committee and the TBA Board believe it's important to propose good legislation and we'll continue to carefully deliberate through these issues. It is, our intention at this time to have a solid proposal for TBA members to consider at the Annual Business Meeting for resolution to pursue these changes. If the feedback we are given leads us to believe we have a solid proposal worth pursuing, we will be in a good position for upcoming legislation as early as 2019.

We thank the members of our committee for their work and contributions. We will certainly update the membership as much as we're able with progress reports. We are targeting to circulate a survey before the next TBA Journal issue, so watch your email. In that circulation, we may have additional updates. We're also grateful to FARFA for contributing to our progress and helping to manage the process and interface with legislators. We are looking forward to talking with more beekeepers, organizations, and interested stakeholders and continued progress.

If you have specific questions about the committee's work, our progress, or proposals, please contact the committee chair, Ashley Ralph, Ashley@primebees.com

New Cover Lets in Only Red Light and Keeps Small Hive Beetles Out - from *Catch The Buzz* by Sydni Moore



At their worst, honey bees are known for delivering painful stings, ripping apart their own tiny bodies in the process, just to protect their own hive. At their best, however, honey bees are much more impressive — not to mention, way less gruesome.

According to the Animal and Plant Health Inspection Service of the United States Department of Agriculture, honey bees' pollination is responsible for over \$15 billion in added crop value, particularly for specialty crops such as nuts, berries, fruits and vegetables.

With 2.5 million colonies in the United States, nearly every American citizen should be thankful for honey bees and their keepers.

"Growers depend increasingly on beekeepers from other states to transport honey bee colonies across the county to meet the pollination demand (a practice known as migratory beekeeping)," the USDA's website reads.

But human behavior also puts the insects in danger.

According to the website for the Natural Resources Defense Council, pesticides, the loss of habitat and climate change are all factors that have contributed to the loss of honey bees. Some disease has, too. Pathogens carried by mites, often known as varroa destructors are known to weaken bees.

Locally, a pest known as the small hive beetle affects bees in many parts of the country. Two area businessmen, however, are working to change that.

Protective product

"For about 22 years, we've had a problem with small hive beetles," Superior Hive Solutions' Michael Richardson tells a group of roughly 50 people. He's speaking at a networking event at the Springfield Art Museum, known as 1 Million Cups. "They eat the bees."

Richardson tells the audience the beetles were first found in 1996 in Charleston, South Carolina, where they were most likely imported on a loaded fruit from South Africa.

He moves on to explain his company's idea: a transparent, red piece of acrylic shaped like a lid. It fits over a honey bee

box hive, known professionally as a Langstroth hive, which almost looks like a small set of drawers. As sunlight shines through the acrylic, it creates red light inside the hive that disturbs small hive beetles and deters them away. He calls the product the Beetle Banisher.

Working like a charm

Later, at local beekeeper John Raleigh's residence, Richardson and business partner Joseph Bennett explain how their idea was discovered.

After using a white light to build and repair honey bee hives at night, the partners went home covered in stings.

"The bees don't like white lights, so they got really angry and we got stung a lot through our suits," Bennett says. "We were wondering if we even wanted to be messing with bees from then on."

Later, Bennett and Richardson learned through another beekeeping friend that while white light is troublesome to bees, red light doesn't bother them.

"We did some research and found bees see red as black, so we got some lights and went out at night and started working on the hives, and we didn't get stung," Bennett said. "They just didn't care."

The discovery led them back to the small hive beetle — a pest they were growing tired of dealing with, Bennett says. They wanted to test whether the parasite had an aversion to the red light.

"Sure enough, they couldn't stand it," Bennett said. "So, we decided to make a top."

Once prototypes for Bennett and Richardson's product came in, several were sent to beekeepers in Florida, where small hive beetles are a year-round concern.

"I must admit I was skeptical at first as everyone seems to have the absolute answer with their theories and gimmicks," one testimonial on the Beetle Banisher's website reads. "Bottom line ... I'm impressed. I think this is really a step in the right direction for a minimally-invasive, chemical-free process for reducing or eliminating small hive beetle presence in the hive."

One prototype went to Raleigh, too.

"I put the lid on a hive and I left it there for six days," John said. "I went back and looked at the hive and in the top box, there were no beetles. The second box had a few, in the third box there was a few—you get less light as you go through there—but I put it back on four more days, and I came back and looked, and basically, they were gone."

continued on page 38

All in the numbers

Of course, there are similar tools in the beekeeping world that protect bees from the pests, but Richardson and Bennett say they have yet to find a product that works as well.

"Beetle Banishers are the safest, easiest, most effective way to eliminate the threat (of) Small Hive Beetles," the product's description reads on its website.

The product is currently available for order online, but Richardson says the pricing is hefty.

"They're expensive, because I'm having to have them made in the United States," Richardson says, noting the price at \$65.

They soon hope to find commercial beekeepers interested in placing a significant order, so the company can work with China, where Beetle Banishers can be manufactured for a cheaper price.

All in all, however, the pair just want to protect as many bees from beetles as possible.

"It started south and two years ago, there was the first real infestation here," Raleigh says. "And then last year, was just about as bad, if not worse."

Richardson says the truth lies in the numbers.

"From spring of 2016, they claimed there were 2.6 million bee hives in the United States at that time," he says, quoting a U.S. Department of Agriculture statistic. "For their same count in Spring 2017, they recorded it down to 2.5 million. They lost 100,000."

He says the beetles are just as responsible for killing bees as any other factor. The three want people to know the seriousness of the situation.

"If you think about 100,000 beehives multiplied by 80,000 bees per hive, you've lost that many bees in a year," Richardson says. "It's been a steady decline."



Bees Linger on a Flower Emptying it of Nectar because they have Sugar-Sensing Taste Neurons that Work Together

from Catch The Buzz

British scientists have discovered bees linger on a flower, emptying it of nectar, because they have sugar-sensing taste neurons that work together to prolong the pleasure of the sweetness.

The Newcastle University researchers report the bees' taste neurons found on their proboscis – their mouthparts – fire intense signals for up to 10 seconds, much longer than the taste neurons found in other insects.

Bees can taste sugars on their proboscis and when in contact with food, taste neurons on the proboscis are activated signaling the presence of food.

The researchers report in a study published in the journal *Current Biology* that the neurons that specifically respond to sugar exhibit a very intense activation, which persists up to 10 seconds.

While these neurons exhibit intense activity, the bee will remain feeding at the same sugar source. Only when this activity declines does the bee remove its proboscis to try a further feeding point.

"We demonstrate in bees that, like in humans, the first taste of something sweet such as a lollipop is incredibly intense but then becomes less interesting," says study author Geraldine Wright, professor of insect neuroethology from the Institute of Neuroscience. "This is so our sensory neurons don't get overloaded and burn out."

"What we've found in bees is that the initial intense sweetness of sugar can last up to 10 seconds – so they will stay on the same sugar source."

"This makes sense if you think a worker bee is not just collecting for its own use but is storing it for others in the hive. It also means the bee will find a flower and drink all the nectar before other bees can intervene and take it."

The research team found that the bee has two taste neurons within each 'taste bud' which interact to enable this persistent, intense sugar neuron activity.

Newcastle University PhD student Ashwin Miriyala says other insects have one type of taste neuron that is activated by sugars.

"We have discovered however, that bees have two different types of sugar-activated neurons," Miriyala says.

"The first neuron exhibits intense activity when in contact with sugar. The second neuron intermittently inhibits the activity of the first neuron for short durations of time. This inhibition allows the first neuron a sort of 'resting period', so it can recover and maintain its intense activity for longer periods of time."

"Our data show that the interaction between these two sugar neurons is a result of electrical connections between them. This is the first evidence for this kind of connection in any insect taste neuron."

In Memoriam



William Whittington, 91 of Dickinson, Texas passed away on April 25th, 2018. He was born in Wells, Texas on September 19, 1926 to George and Ida Lee Whittington. William was married to his wife Patricia Whittington for 50 years and had a career in bee keeping. His passion was his family and his business of bee keeping.

William is preceded in death by former wife Irene Whittington, parents George and Ida Lee Whittington; sons Larry Whittington, David Whittington, Kenneth Whittington; daughter Elizabeth Dixon and granddaughter Amanda Whittington. He is survived by his wife Patricia Whittington; son Curtis Whittington; grandchildren William James Dixon, David Dixon, Jessie Whittington and Larry Wayne Whittington. Along with numerous great grandchildren and one great great grandchild.

John Dufner, Jr., age 48, of Hackensack, passed away on Saturday, May 5, 2018, at Regency Hospital, Minneapolis. He was born to John and Sharon Dufner on June 6, 1969. John was born and raised in Southern California before moving to Minnesota in 1993. In 1994 he was employed by Mann Lake Ltd. where he worked for the next 22 years.

John is survived by Vicki Dufner, Judith Albrecht, John Dufner, Sr. (Betty), Sharon Sherrill (James), Linda Slyter, children and future grandchildren.



Listing of Local Beekeepers' Associations in Texas with TBA Delegate and Regular Meeting Information Shown for Each

Please forward any changes and/or additions to
Leesa Hyder, Executive Secretary, execsec@texasbeekeepers.org

Alamo Area Beekeepers Association

Rick Fink - (210) 872-4569

president@alamobees.org

www.alamobees.org

Meetings: 3rd Tuesday on odd # months

Helotes Ind. Baptist Church

15335 Bandera Rd., Helotes at 7 pm

Austin Area Beekeepers Association

Dodie Stillman

austinareabeekeepers@gmail.com

facebook.com/groups/Austin/AreaBeekeeperAssociation

www.meetup.com/Austin-Urban-Beekeeping/

Meeting: 3rd Monday of each month at 7pm

Frank Fickett Scout Training and Service Center

12500 N I-35, Near Parmer Lane, Austin

Bees in the East Club

Mark de Kiewiet (210) 863-8024

beesintbeeast@att.net

Meetings 4th Saturday of each month at 10am

Water Garden Gems, 3230 Bolton Road, Marion,

Bell/Coryell Beekeepers Association

Frank Morgan - (254) 423-2579

bellcoryellbeeclub@gmail.com

Meetings: 3rd Tuesday of each month (except December) at

Refuge Ministries, 2602 S. FM 116, Copperas Cove - 7pm

Brazoria County Beekeepers Association

Kenneth Nugent - (979) 922-9725

knugent@gmail.com

bcba@brazoria-county-beekeepers-association.com

www.brazoria-county-beekeepers-association.com

Meetings: 2nd Monday of each month

Brazoria County Extension Office, 21017 CR 171, Angleton at 6:45 pm

Brazos Valley Beekeepers Association

Ashley Ralph - (979) 777-2529

info@bvbeeks.org

www.bvbeeks.org

Meetings: 3rd. Tuesday of each month (except Dec.)

First Christian Church, 900 S Ennis St., Bryan from 6pm

Caddo Trace Beekeepers Association

Terry Wright - (903) 856-8005

tcwright7021@yahoo.com

Meetings: 2nd Monday of each month

Titus County Agrilife Ext. Bldg., 1708 Industrial Rd., Mount Pleasant at 7 pm

Caprock Beekeepers Association

David Naugher - (806) 787-7698

caprockbeekeepers@gmail.com

Meetings: 3rd Thursday of each month at 6:30 pm

Lubbock Memorial Arboretum, 4111 University Ave., Lubbock

Central Texas Beekeepers Association

Michael Kelling - (979) 277-0411

CentralTexasBeekeepers@gmail.com

www.centraltexasbeekeepers.org

Meetings: Monthly on the 4th Thursday (except November and December)

Washington County Fairgrounds, 1305 E Bluebell Rd., Brenham at 7pm

Chisholm Trail Beekeepers

Scott Zirger (682) 385-0008 or (510) 301-5796 (cell)

scott@zirger.us or chisholm-trail-beekeepers@googlegroups.com

Meetings: Last Monday of each month

United Cooperative Services, 2601 S Burleson Blvd, Burleson

Coastal Bend Beekeepers Association

Dennis Gray (361) 877-2440

CoastalBendBeekeepers@gmail.com

Meetings: First Thursday of each month at 6:30 pm

City of Corpus Garden Senior Center, 5325 Greely Dr., Corpus Christi

Collin County Hobby Beekeepers Assn.

Mary-Ann Allen (214) 543-5597

president@cchba.org

www.cchba.org

Meetings: 2nd Monday of each month at 6:30 pm

Collin College Conference Center, (Central Park Campus)

2400 Community Dr., McKinney

Comal County Beekeepers Association

Julie Morgan - (210) 475-2924

julie.morgan@gmail.com

Meetings: 1st Thursday of each month

Beefy's on the Green Restaurant, upstairs room

12910 US Hwy 281N at 6:30 pm

Concho Valley Beekeepers Association

Rex Moody - (325) 650-6360

cvbbeekeeper@gmail.com

Meetings: 3rd Tuesday of each month Jan-Nov at 6:30 pm

Texas A&M res. & Ext. Center, 7887 US Hwy 87 N, San Angelo

Deep East Texas Beekeepers Association

Ellen Reeder - (337) 499-6826

ellenswartz@sbcglobal.net

Meetings: 1st Tuesday of each month @6pm

San Augustine Cof C Bldg, 611 West Columbia St., San Augustine

Denton County Beekeepers Association

Christina Beck - (940) 765-6845

christinadbeck@gmail.com

www.dentoncountybeekeepersassociation.com

Meetings: 1st Wednesday of each month at 6:30 pm

Denton County Elections Building, 701 Kimberly Dr., Denton

Dino-Beekeepers Association

Chip Hough (817) 559-0564

dino-beeclub@hotmail.com

www.dino-bee.com

Meetings: 2nd Tuesday of month at 6:30 pm

Glen Rose Citizens Center, 209 SW Barnard St., Glen Rose

East Texas Beekeepers Association

Richard Counts - (903) 566-6789

dick.counts4450@gmail.com

www.etba.info

Meetings: 1st Thursday of each month at 6:45 pm;
Whitehouse Methodist Ch., 405 W Main (Hwy 346), Whitehouse

Elgin Beekeepers Association

Sarah Jones - (512) 567-1410

sarah@campsunflower.com

Meetings: 2nd Wednesday of the month at 7 pm
Various Locations

Elm Fork Beekeepers Association

Jan Hodson - (940) 637-2702

janrhodson@gmail.com

Meetings: 3rd Thursday of each month
Landmark Bank, 1112 E California St., Gainesville, TX 76240
at 6:30 pm

Erath County Beekeepers Association

James K Gray - (254) 485-3238

grayjamesk@jkgray.com

Meetings:

Fayette County Beekeepers Association

Mike Mathews (713) 805-9673

mmathews324@gmail.com

Meetings: First Saturday of the month, Feb, April,
June, August, October and December at 5 pm
Fayette County Ag. Bldg., 240 Svoboda Ln., La Grange

Fort Bend Beekeepers Association

Lynne Jones - (713) 304-8880

info@fortbendbeekeeping.org

Meetings: 2nd Tuesday of each month (except December) at 7:30 pm
Bud O'Shieles Community Center, 1330 Band Rd., Rosenberg

Fredericksburg Beekeepers Association

Joe Bader - (830) 537-4040

joebees@gmail.com

Meetings: Third Thursday of even number months (excl. Dec) at 6:30 pm
Gillespie County Ext. Off., 95 Frederick Rd., Fredericksburg

Golden Crescent Beekeepers Association

Joe Swaney (361) 293-0472

pmbamilton@gmail.com

Meetings: 2nd Monday of each month at 7pm
Victoria County 4H Activity Center,
459 Bachelor Dr., Victoria

Harris County Beekeepers Association

Gary Parks (713) 906-1805

gparks@geparkslaw.com

www.harriscountybeekeepers.org

Meetings: 4th Tuesday of each month at 7pm
Golden Acres Center, 5001 Oak Ave., Pasadena

Hays County Beekeepers Association

Nathalie Misserey (512) 699-0605

hayscountyba@gmail.com

Meetings: 3rd Wednesday of each month at
Driftwood Volunteer Fire Station, 15850 FM 1826, Austin, TX
78737 at 7pm

Henderson County Beekeepers Association

Elizabeth Hudson - (330) 881-8008

hushyomouth55@gmail.com

Meetings: 3rd Thursday of the month at 6:00 pm
Faith Fellowship Church, 5330 Highway 175, Athens, TX 75762

Hill County Beekeepers Association

Art Wharton (254) 221-5325

ohyougotit@aim.com

Meetings: 3rd Tuesday of the month at 6 pm
Hill County Courthouse Annex, 126 S Covington St., Hillsboro

Hopkins County Beekeepers Association

Jon Dalzell - Secretary, (214) 395-1730

dalzelljon@aol.com

Meetings: 3rd Thursday of the month at 6:30 pm
Hopkins County Agrilife Bldg., 1200 W Houston St., Sulphur
Springs

Houston Beekeepers Association

Hank Hilliard - (713) 828-7247

info@houstonbeekeepers.org

www.houstonbeekeepers.org

Meetings: 3rd Tuesday of each month at 7:30 pm
Bayland Community Center, 6400 Bissonnet St., Houston

Houston Natural Beekeepers Association

Dean Cook

houstonnaturalbeekeepers@gmail.com

Meetings: Second Saturday of the month at 11 am
1702 Rothwell, Bldg C, Houston

Johnson County Beekeepers Association

Don Russell or Bruce Watts, Jr.

boatshop6@yahoo.com or bruce.jr@sbcglobal.net

Meetings: 2nd Tuesday of each month at 6:30 pm
Seven Day Adventist Church, 1912 Conveyor Dr., Joshua

Lamar County Beekeepers Association

Scott Brinker - (501) 307-5111

lamarcoba@gmail.com

Meetings: 1st Thursday of the month at 6:30 pm
Lamar County Fairgrounds, 570 E Center St., Paris

Liberty County Beekeepers Association

Cameron Crane - (409) 658-3800

info@libertycountybeekeepers.org

www.libertycountybeekeepers.org

Meetings: 1st Tuesday of each month at 6:30 pm
Liberty Agrilife Extension Office, 501 Palmer Ave., Liberty

Longview Beekeepers Association

Gus Wolf - (903) 746-9256

glwolf@gmail.com

Meetings: 4th Thursday of each month at 6 pm

Texas Agrilife Extension Office, 405 E Marshall St., Longview

Marshall Beekeeping Association

Beth Derr - (936) 591-2399

marshallbeekeeping@gmail.com

Meetings: 2nd Thursday of each month at 5:30 pm

Cumberland Presbyterian Church, 501 Indian Springs Dr., Marshall

Metro Beekeepers Association

Keegan Olsen, President - (682) 225-0862

keeganolsen@yahoo.com

www.metrobeekeepers.net

Meetings: 2nd Monday of each month

Southside Preservation Hall, 1519 Lipscomb St., Fort Worth

Montgomery County Beekeepers Assn.

Brian Stroud

mocobees@gmail.com

www.mocobees.com

Meetings: 3rd Monday of each month at 6:30 pm

Montgomery County Extension Office, Tom Leroy Education Bldg., 9020 Airport Road, Conroe

North East Texas Beekeepers Association

Jim Burt - (469) 371-4542

burt.b@sbcglobal.net

netbacantontexas@outlook.com

Meetings: 2nd Monday of each month at 6:30 pm

Cross Roads Church, 1930 S Trade Days Blvd., Canton

Pineywoods Beekeepers Association

Terry McFall - (409) 384-3626

tdmcfall@hotmail.com

Meetings: 2nd Thursday of each month at 7 pm

Chamber of Commerce Bldg., 1615 S Chestnut, Lufkin

Red River Valley Beekeepers Assn.

Larry Roderick (940) 237-2814

roderickwaterwells@gmail.com

Meetings: 3rd Tuesday of each month (except December) at 7pm

Bolin Science Hall Room 209, Mid West State University, 310 Taft Blvd., Wichita Falls

Southwest Texas Beekeepers Association

Cynthia Schiotis (210) 317-5596

swtexasbeekeepers@gmail.com

Meetings: 3rd Thursday of odd numbered months at 6pm

Sutton County Public Library, 306 E Mulberry St., Sonora

Temple Area Beekeepers Association

Jim Billings (254) 760-2053

holly21351@aol.com

Meetings: 2nd Thursday of each month at 7pm

Troy Community Center, 201 East Main Street, Troy

Texas Hill Country Beekeepers Association

Elaine McMurray - (830) 777-7845

texashillcountrybeekeepers@gmail.com

Meetings: 4th Tuesday of odd months at 6:30 pm

Wild Birds Unlimited, Nature Education Center, 857 Junction Hwy., Kerrville

Travis County Beekeepers Assn.

Tanya Phillips - (512) 560-3732

info@traviscountybeekeepers.org

www.traviscountybeekeepers.org

Meetings: First Monday of the month at 7 pm

Zilker Botanical Gdns., 2220 Barton Springs Rd., Austin

Tri County Beekeepers Association

Erin Davis - (903) 389-3436

erin.davis@ag.tamu.edu

Meetings: 4th Tuesday of each month at 5:30pm

Sam's Restaurant, Fairfield, TX

Trinity Valley Beekeepers Association

Ryan Giesecke - (214) 577-9562

info@tvbees.org

www.tvbees.org

Meetings: 2nd Tuesday of each month (except August) at 6:45 pm

C C Young Facility, Continuing Education Center, 4847 W Lawther Dr., Dallas

Tyler County Bee Club

Scott Martin - (409) 283-4507

tcbclub16@gmail.com

Meetings: 4th Tuesday of each month at 6 pm

Nutrition Center, 201 Veterans Way, Woodville

Walker County Area Beekeepers Assn.

Mark Short - (281) 387-8124

walkercountybeekeepers@gmail.com

Meetings: Last Thursday of each month at 7 pm

Walker Education Center, 1402 19th St., Huntsville

Williamson County Area Beekeepers Assn.

Jim Colbert - (512) 569-7573

colbertj@hotmail.com *www.wcaba.org*

Meetings: 4th Thursday of each month at 7 pm (except December)

First United Methodist Church, McKinney Ministry Center, 410 E University Avenue, Georgetown

Wood County Beekeepers Association

Mary M Smith - (903) 342-3438

woodcountybeekeepers@gmail.com

Meetings: First Tuesday of every month at 6:30 pm

First National Bank, 315 North Main St., Winnsboro

Directors -at-Large

Area 1

Chris Doggett

ckdoggett@gmail.com
400 County Road 440
Thrall, TX 76578
(512) 914-2794

Elgin Beekeepers Association
Bell/Coryell Beekeepers Association
Fayette County Beekeepers Association
Williamson County Beekeepers Association
Dino-Beekeepers Association
Hill County Beekeepers Association
Temple Area Beekeepers Association
Southwest Texas Beekeepers Association
Bees in the East Club

Area 2

Tanya Phillips

tanya@beefriendlyaustin.com
9874 Wier Loop Circle
Austin, TX 78736
(512) 560-3732

Travis County Beekeepers Association
Coastal Bend Beekeepers Association
Alamo Area Beekeepers Association
Fredericksburg Beekeepers Association
Texas Hill Country Beekeepers Association
Austin Area Beekeepers Association
Hays County Beekeepers Association
Erath County Beekeepers Association
Comal County Beekeepers Association

Area 3

Ashley Ralph

ashley@primebees.com
3605 Midwest Drive
Bryan, TX 77802
(979) 777-2529

Montgomery County Beekeepers Association
Central Texas Beekeepers Association
Walker County Beekeepers Association
Brazos Valley Beekeepers Association
Concho Valley Beekeepers Association
Caprock Beekeepers Association
Trinity Valley Beekeepers Association
Johnson County Beekeepers Association
Tri County Beekeepers Association

Area 4

Roger Farr

rdfarr@gmail.com
6073 Farm Road 2348
Mount Pleasant, TX 75455
(979) 436-5310

Caddo Trace Beekeepers Association
Hopkins County Beekeepers Association
Lamar County Beekeepers Association
North East Texas Beekeepers Association
Collin County Hobby Beekeepers Association
Denton County Beekeepers Association
Metro Beekeepers Association
East Texas Beekeepers Association
Chisholm Trail Beekeepers Association
Elm Fork Beekeepers Association

Area 5

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brooksidebees@gmail.com
5402 Greenhill Road
Brookside Village, TX 77581
(281) 468-0019

Harris County Beekeepers Association
Houston Beekeepers Association
Houston Natural Beekeepers Association
Fort Bend Beekeepers Association
Brazoria County Beekeepers Association
Red River Valley Beekeepers Association
Golden Crescent Beekeepers Association

Area 6

Cameron Crane

cameron@cameroncrane.com
2300 Belvedere Dr.
Baytown, TX 77520
(409) 658-3800

Liberty County Beekeepers Association
Longview Beekeepers Association
Pineywoods Beekeepers Association
Tyler County Beekeepers Association
Wood County Beekeepers Association
Marshall Beekeeping Association
Deep East Texas Beekeepers Association
Henderson County Beekeepers Association

Texas Beekeepers Association

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