The Texas Beekeepers Association

Journal

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President's Report
from Ashley Ralph

The holidays just flew by, the new year is well underway, and it's amazing how mild this winter has been for us. We've seen overwintered drones hanging out in many of our hives - they got lucky this year without the hard freezes that typically get them booted out the hive entrance. Our bee boxes are already filled with brood and have good weight on them heading into the almonds.

The American Beekeeping Federation Conference was in Chicago this year and believe it or not, the weather was just fine with the exception of one day we all avoided the outdoors. The speakers were top-notch and we learned a lot about the beekeeping industry, issues that commercial beekeepers are facing throughout the nation, the upcoming threat of the tropilaelaps mite and a few tricks and tips to bring back to our events. We had a great turnout from Texas from small scale to commercial beekeepers so it was great to see a lot of familiar faces. Our 2019 Texas Honey Queen Mary Reisinger won the title of American Honey Queen and it was so well deserved. She will be a great resource for the honey and beekeeping industry as she travels around the U.S. to teach communities the value and necessity of bees and beekeeping. Monica Siwiak took 2 awards in the highly competitive Honey Show and you should definitely check out the photos online of some of the wax sculptures that were entered - they were unbelievable.

Regarding the industry - the threat of adulterated and imported honey continues to drive down the pricing of domestic honey, specifically for commercial beekeepers. The good news is that most people selling face-to-face aren't experiencing this. The local beekeepers who are selling to locals are reporting substantially higher prices than those reported on the national reports. In the commercial beekeeper's breakfast, this was a hot topic of frustration for beekeepers and there wasn't one solution to save them all. We did hear some commonality in stories of beekeepers who have branded their honey directly to consumers in order to get higher prices rather than selling to larger packers. There have also been more lawsuits brought against packers who are being accused of mislabeling and misleading consumers - it'll be interesting to see if these lawsuits gain traction or can make a difference in labeling laws.

Your TBA Board has been working hard already and is planning two amazing events this year - the TBA Summer Clinic will feature Dr. Tom Seeley. Dr. Seeley has trained up many amazing entomologists throughout the years (including our very own Dr. Juliana Rangel) and is one of the most respected entomologists in the world. He has done studies on how bees make decisions within the hive, bee behavior and social interactions, and so much more. If you have a chance, watch a youtube video of him painting bees in a field to "beeline" his way to finding the feral colony in the woods. This was one of the first youtube videos I watched as we got into bees and I can't wait to meet the man who gets to spend his day doing things like this!

I got to attend the Austin Area Bee School again this year and I enjoy it every time. It's such a great event and it's always a good time to spend time with Texas beekeepers and get new beekeepers excited about honey bees. January is a great month for beekeeper education - the NorthEast Texas Beekeepers Conference has Dr. Jamie Ellis speaking and he's always amazing to hear and learn from.

Our bees are buckled in and ready to go do some pollination in California right now. I think I'll try to make it over there at some point this year to see the almonds in bloom and the bees doing their work.

If I can manage to push the pause button around here, that's the plan.

In This Edition

Cover Picture: Queen and Eggs by Kim Townsend

Vice President's Report
from John Swan

Welcome to 2020 everyone! I hope that the holidays treated you well, and that your new years resolutions haven't caused you too much stress as of yet.

The weather here in Central Texas has been a bit strange so far this winter. Our daily temps have been higher than normal, but we have also had nighttime temps drop lower than normal earlier in the season as well. This can play havoc on a beekeeper's nerves for sure. We see our bees out flying most days, and even bringing in some pollen from time to time. This gives us a sigh of relief to know they are still going about their 'beesiness.' However, it can also cause our internal dialogue to have mild panic attacks too. We ask ourselves, if they are out working, are they going to run out of food because they are active? Should I be feeding my bees since they seem so busy? It can certainly send newer beekeepers into a tailspin of worry and relief that might be unnecessary from the start. We have to remember that our bees often know best for what they need and when. We are here to assist when needed, and often at this time of year that means letting them be, and only assisting when it is truly necessary. But, how do you know when it is necessary then? You can start by doing your heft tests to see how heavy your hives are without having to open them up and disturb the winter cluster. If the hive still has plenty of weight to it, and hasn't changed much between each check, then your bees are managing their stores well. However, if you notice that the weight changes quickly from one check to the next, then your bees might be running low on food stores. This can be due to lack of sufficient food stores going into winter, or by them starting to raise new brood a bit early. This is where things can get tricky for some of us beekeepers in the warmer climates. We can get lulled into a sense of complacency due to our warmer, milder winters. And, so can our bees. So, don't get too comfortable, because February often holds a few nasty surprises up its sleeve that can make or break a colony overnight.

During winter our bees often cluster to stay warm. The internal temps in this cluster can be as low as 60 degrees when no brood is present, and that is fairly easy for the bees to maintain without a large energy or resource drain. However, if they have started to brood up early, then they must keep that brood up closer to 90 degrees in order to keep the brood alive and well. That can create a challenge for the colony when the outside temps drop to freezing, or even below, for multiple days on end. This means that instead of just trying to maintain a temperature swing of only 20 to 30 degrees, they must increase the internal temperature by a minimum of 60 degrees and beyond and be able to sustain it! This is a huge energy drain on the bees and requires a lot of carbohydrates (honey/sugar) in order to help maintain this increased temperature requirement. Add in the fact that the newly developing brood also requires a lot of food, and your colony can go from ample stores to empty pantries in a matter of days! This is what can be the most challenging time for a colony in the Central Texas region. The warmer days in late winter can signal to the bees that its time to ramp up brood production for the approaching spring. But, inevitably, February throws us that curve ball and the bottom drops out of our temperatures as they fall into the 20's and below for several days in a row. This is where you can potentially help your colony prepare for those days. Keep an eye on the extended forecast in your area to see if, and when, one of these deeper cold snaps might be headed your way. If you think your colony is getting lighter and might be in need of extra food stores, consider preparing a solid or dry sugar feed for them and place it directly above the winter cluster on top of the frames. There are many options for these types of solid sugar feeds out there, but I would encourage you to find one that doesn't require you to heat, or cook, the sugar. As with anything else in beekeeping, good bee husbandry means paying attention to the ebb and flow of your colony and adjusting your management as needed.

Despite the chance for a few random cold snaps,February is often the last month we have to also get all early spring prep items check off our to-do lists before our bee management cycles kick back off for another busy season. Have you cleaned up your old boxes, made any needed repairs, and added fresh paint the outsides? Do you still have a pile of frames and foundation that needs assembled? Maybe you are thinking of building some new swarm traps from raw wood? Well, this is the time to be working on those tasks while you still have some "bee-free" time to yourself!

As for myself, I am trying to keep up with ever changing world that is the Summer Clinic and Fall Convention. Luckily for me, we have a wonderful event coordinator, Rebecca Vaughan, and she can and does run circles around me on a daily basis. She is our Wonder Woman when it comes to these events, and we are so thankful to have her as part of the team. But even a superhero needs some help from time to time. So, if you are interested in helping out and volunteering for either of the two big events, or even for some of the smaller events throughout the year, please let me know. We would love to have you as part of our team! The Summer Clinic is fast approaching and we have an amazing keynote speaker lined up for everyone… Tom Seeley!! Tom is a world renowned honey bee biologist and animal behaviorist who is at the forefront of his field when it comes to bees. He is also the author of numerous books on the honey bee, including Honey Bee Democracy. This is truly a once in a lifetime opportunity for us to learn directly from such an amazing researcher. Please save the date: Saturday, June 20th, in Denton, TX. More information about the summer clinic will be coming in the next issues of the Journal, so stay tuned!

Until then, you all bee good, bee safe, and stay warm!

Honey as a Therapeutic Agent

from Ferhat Ozturk

first published in "The Fountain" May - June 2018

In 67 BCE, the magnificent Roman army, which was led by Pompey the Great, marched through the green mountains and blue shores of the Black Sea, chasing King Mithridates of Pontus and his Persian army. Once the Romans reached the highlands of Trabzon, now part of northeastern Turkey, they found pots full of local honey on the sides of their path. The hungry and tired Roman army, with a total of about 1000 soldiers, rushed into the pots, assuming they were gifts from the villagers. Within a couple of hours, a majority of Pompey's soldiers were perplexed and hallucinating, and could no longer fight against Mithridates' army. The Romans had been trapped by the "mad honey," the first biological weapon used in history. The alkaloid grayanotoxin, of the rhododendron, locally known as the forest rose or the Kumar flower, induced aorta expansion among the Roman soldiers, which resulted in bradycardia (decrease in heart rate), hypotension, hallucinations, and eventually disorientation.[1] This mad honey is still being used, at low doses, by locals of the Black Sea region as a traditional medicine for the treatment of hypertension.

Honey is produced through enzymatic processing of the nectar or honeydew honeybees collect from various plants. The invertase enzyme within the bees' abdomens catalyzes the conversion of sucrose – table sugar within the nectar – into glucose and fructose. Honey is supersaturated in sugars, packed with beneficial chemicals, and, thus, possesses high nutritive value. It has been used both as a nutritious food and a remedy for various ailments throughout history. Wound healing, and treatment of gastrointestinal diseases, conjunctivitis, acute fever, and pain, are just some of the disorders honey can treat.

Honey bees have been on the Earth for thousands of years due to their indispensable role as the ultimate pollinators. Bees pollinate more than 60% of the planet's overall plants, as well as 35% of the world's crops. Nowadays, due to a fall in productivity rates of some crops, farmers hire beekeepers to install their honey bee and bumble bee hives into their fields, allowing for more effective pollination of their crops. Between February and March each year, almond tree buds in California burst into beautiful light pink and white blossoms in preparation for pollination. As the trees blossom, honey bees forage for pollen and nectar in the orchard. When the bees move from tree to tree, they pollinate almond blossoms along the way. Each fertilized flower will grow into an almond. Honey bees also receive a great advantage from the almond pollinations. The almond pollens are rich in proteins and nutrients for the bees, and they are their first food source after the winter. Thus, the bee hives leave the almond fields stronger than they came. After almonds, beekeepers bring their honey bees to different locations across the United States, pollinating over 90 other crops and making honey.[2]

Honey in medical bibliography

Honey has been harvested by human beings for thousands of years, as was depicted at the "Man of Bicorp," an 8000-year-old cave painting near Valencia, Spain.[3]

According to a Sumerian tablet, one of the oldest human scriptures dating back to about 2000 BC, a prescription for treating wounds reads: "grind to a powder river dust and …. (*words missing*) then knead it in water and honey and let plain oil and hot cedar oil be spread over it" (Jones 2001). This tablet demonstrates the oldest script about using honey for therapeutic purposes. Meanwhile, almost all great civilizations throughout history, including but not limited to Egyptians, Assyrians, Chinese, Indian, Mayan, Greek, Roman, Arabic, Ottoman, etc., praised honey in their texts; their doctors and healers used honey for treatments of various disorders. Honey was the most popular medical ingredient of the Egyptians, being mentioned in about 500 prescriptions among 900 papyri.[4]

Honey also has been praised in religious scriptures, including the Torah, Gospel, and Qur'an. In the present Torah, the Promised Land (Ha'Aretz HaMuvtahat - Ard Al-Mi'ad) is described as the land of milk and honey (Deuteronomy, 6: 3). According to the story in the Gospel, Jesus ate honey and bread to prove to the Apostles that he was not merely a spirit or figment of imagination. In the Qur'an, honey is clearly identified as "a healing for mankind":

And your Lord inspired the (female) bee: "Take for yourself dwelling-place in the mountains, and in the trees, and in what they (human beings) may build and weave. Then eat of all the fruits, and returning with your loads, follow the ways your Lord has made easy for you. " There comes forth from their bellies a fluid of varying color, wherein is health for human beings. Surely, in this, there is a sign for people who reflect. (16:68-69)

Moreover, Prophet Muhammad, peace be upon him, praised honey as a source of healing for both the body and spirit. In his various traditions, the Prophet encouraged his followers to

consume honey for its versatile medicinal use such as abdominal pain, as well as its high potential to protect people from many illnesses, indicating honey's significant role in preventive medicine.

Avicenna (Ibn-i Sina) is the author of "The Cannon of Medicine" (Al-Qanun fi-t-Tibb) and his five-volume-book was a reference source for medical studies in the universities of Europe between the 12th and 18th centuries.[5] In the 2nd volume of "The Cannon," where he described the preparation of various pharmaceuticals for treatment, he listed honey in more than 35 prescriptions.

Until the early 20th century, honey was used daily by physicians as a traditional medicine. It was even used on battlefields to treat wounds and burns. During World War II, Russian army nurses gave honey to wounded soldiers.[6]

As biochemistry and pharmaceutical researchers developed and introduced new drugs into modern medicine throughout 20th century, scientific opinions on honey's nutritive and medical uses have differed and clashed with folklore. However, recent controversies within the scientific community have re-kindled interest in the therapeutic uses of honey in modem medicine. Recently, scientific support has emerged in a proliferation of publications on the successful therapeutic use of honey in several general medical and surgical conditions. Thus, honey has been described as, "A remedy rediscovered," by Dr. Zumla in an article in the "Journal of Royal Society of Medicine."[7] A complementary branch of medicine, called apitherapy, has been developed in recent years, offering treatments against many diseases based on honey and other bee products, such as propolis, royal jelly, wax, and venom.

Components of honey

As described above, honey is not only a supersaturated sugar solution, but also equipped with more than 200 various chemical and biological components. This shouldn't be surprising, as more than 60% of medicines on the medical market are extracted from plants. As the honey bees visit the flowers and trees, they work as diligent chemists collecting various organic compounds from within the plants.

Depending on its origin of flora, geographic region, harvest time, and strain of honey bee, the components of honey differs; hence, so does its physicochemical character and biological activity potential. Besides the sugars of glucose, fructose, and sucrose, which constitute about 76% of honey's makeup, other minor components are present in honey, such as minerals, polyphenols, carotenoids, vitamins, amino acids, specific proteins and enzymes, organic acids, and volatile compounds. Some of the vitamins present in honey are B6, thiamin, niacin, riboflavin, and pantothenic acid. The minerals include calcium, copper, iron, magnesium, manganese, phosphorus, potassium, sodium and zinc. While the amino acid content is minor, the broad spectrum of approximately 18 essential and nonessential amino acids present in honey is unique and varies by floral source. The polyphenols present in honey can act as antioxidants and they play a role in cleansing the body from the free radicals and reactive compounds, which can contribute to the development of serious illnesses such as cancer and heart disease. It is shown that honey contains a similar range of antioxidants that are found in green vegetables and fruit including broccoli, spinach, apples, oranges and strawberries.[8]

Types of honey

Since the nectar for honey is mostly collected from the various kinds of flowers within the bee's two-mile foraging radius, not every honey is the same. Therefore, the science of melissopalynology is well developed to identify the pollen and nectar source of honey. Although there are many varieties, categories, and sub-categories of honey, all honey types can be divided into two general groups – multifloral honeys and monofloral honeys. Multifloral honeys are produced by honey bees using nectar from many different flower sources. On the other hand, honey bees can also produce honey from the nectar of one dominant flower species (>45%), which is called monofloral honey. The common monofloral honeys are acacia, eucalyptus, fir, spruce, heather, lavender, lime, linden, orange blossom, pine, rape, rosemary, sunflower, chestnut, thyme, and clover.[9] Due to easier standardization and sustainable production methods, monofloral honeys are preferable for animal studies and clinical trials. Among several monofloral types, manuka, chestnut, oak, tualang, gelam, and ulmo honeys are the most studied medical grade honeys worldwide.

Biological activity of honey

The Cochrane Reviews are systematic reviews of primary research in human healthcare and health policy and are internationally recognized as the highest standard in evidence-based healthcare resources.[10] In recent years, two reviews were published regarding the usage of honey in large clinical trials worldwide. They are titled "Honey as a topical treatment for acute and chronic wounds" [11] and "Honey for acute cough in children."[12] These articles prove that the benefits of honey are being discussed by the major players within modern medicine.

The health benefits of uncontaminated pure honey range from antioxidant, immunomodulatory, and anti-inflammatory qualities, to antitumor actions, metabolic and cardiovascular benefits, prebiotic potentials, human pathogen control, and antiviral activity. Most of these reported biological activities are credited to the minor components present within the honey, which are mainly dependent on the floral or geographical origin of honey. Therefore, scientists and physicians admit that not every honey can be used for every disease. It has been documented that the darkness of honey positively correlates with its total phenolic contents, which significantly contributes to its biological activity potential.

In an interview with Prof. Kamaruddin Yusoff of BalMer Honey Research Center, he interprets the Quranic verse about the honey, which was described as fluid of varying color emerging from the bellies of honey bees, that different colors of honey can be used for treatment of different diseases. It has been documented that the darkness of honey positively correlates with its total phenolic contents, which significantly contributes to its biological activity potential. On the other hand, Prof. Irfan Yilmaz interprets the same verse as not only the honey but also other fluids such as propolis, royal jelly, wax, and venom are produced within different parts of the honey bee's abdomens.

Accordingly, several scientists focused on these fluids as a part of apitherapy.

Although most of the biological properties are attributed to the phenolic components, other biochemical factors may also be involved: high osmolarity and viscosity (76% sugar content), high acidity (pH 3.2 to 6.1), the glucose oxidase system (source of hydrogen peroxide), low redox potential, high carbon to nitrogen ratio, and the bee defensin-1 protein.

The osmotic pressure and viscosity of honey is due to low water (17%) and high sugar content (%76). The majority of sugars found in honey are monosaccharides, which are glucose (a range of 22-40%) and fructose (a range of 27-44%); and disaccharides, which are sucrose (a range of 1-5%) and maltose (a range of 1-5%). The high osmolarity of honey is enough to hinder the growth of microbes; thus, no bacteria, virus, or fungi can survive within honey. Consequently, honey has a very long, almost eternal shelf life. Recently, pots of honey were found by archeologists while they were excavating the pyramids in Egypt and this 3000-year-old honey was well preserved and still perfectly edible.[13] In a proverb it is said that "Noble doesn't go astray, honey doesn't spoil."

The pH of honey is mostly dependent on the phenolic acids collected from the nectar sources; therefore, it changes with the foraging resources available to bees.

There are live enzymes within the honey, which are mostly introduced from the abdomens of honey bees. The predominant enzymes in honey are diastase (amylase), invertase, and glucose oxidase. Others, including catalase and acid phosphatase, can also be present, depending on the type of floral source. And recently, proteolytic enzymes have been found in honey. Among these enzymes, the glucose oxidase plays an essential role in producing hydrogen peroxide, which is critical to limit the proliferation of pathogenic bacteria. Once the honey is dissolved in water, glucose oxidase will catalyze the conversion of glucose into gluconic acid and H2O2. Since the amount of H2O2 is diminutive (0.3%) and slowly released, there is much less cytotoxic damage to the healthy cells, providing a better method than applying H2O2 directly to wounds and burns.

Researchers continue to study the potential uses and benefits of honey. Several clinical and animal studies suggest the use of honey in the control and treatment of wounds, diabetes, cancer, and asthma, as well as cardiovascular, neurological, and gastrointestinal diseases.[14]

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[3] https://en.wikipedia.org/wiki/Cuevas_de_la_Arana

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Update from Texas Apiary Inspection Service

from Mary Reed, Chief Apiary Inspector

Hello Texas Beekeepers!

I hope all of you had a wonderful winter season and are enjoying a good start to the new year! Our office has been busy completing inspections for beekeepers who are gearing up to send bees to California for almond pollination. Earlier in January we went to Chicago to attend the American Beekeeping Federation conference, as well as the Apiary Inspectors of America's annual meeting. I always look forwards to these meetings, because it's a great opportunity for us to interact face-to-face with inspectors from other states, as well as chat with beekeepers and researchers from all over. One of the big takeaways from these meetings is that there is a lot of great information for beekeepers floating around out there, but it's difficult sometimes to know where to start looking for it. So, in this article I'd like to highlight a few informational resources that I find most valuable.

General Beekeeping Information

As we all know the internet can be our greatest friend, but also our greatest enemy when it comes to trying to find good, reliable information. There are a few websites that I reference whenever I speak about hive management, or need to find an answer to a beekeeping question. Below are three of my top choices:

1. **eXtension Foundation** - https://bee-health.extension.org/
   No, I promise that's not a typo. The name is a play on words where the "e" is for electronic and the "Xtension" is for extension. The eXtension website is an online resource that covers a wide range of topics, utilizing information provided by land-grant institutions. They have a webpage dedicated specifically to honey bee health where you can find information on honey bee biology, honey bee pests and diseases, beekeeping management techniques, and so much more. This is typically my go-to online resource for questions related to general beekeeping information.

2. **Honey Bee Health Coalition Best Management Practices** - https://honeybeehealthcoalition.org/hivehealthbmps/
   You may have heard about the Honey Bee Health Coalition (HBHC) through their efforts in developing educational materials regarding Varroa management in honey bee hives. Earlier last year they published a comprehensive document covering best management practices for honey bee health. I love this document because it's a great resource for beekeepers to turn to when they have questions about how to set up their apiary, what safety factors they should consider when working a bee hive, colony health, queen health and replacement, honey bee nutrition, and so much more! This is a pretty lengthy document, so you may want to read it in small increments so it's easier to digest. Also, all documents created by the HBHC are considered "live" documents, meaning that they are constantly being reviewed and may be updated from time to time. So, if you print or download the current version I'd suggest checking the website from time to time to see if there are any updates.

3. **Bee Informed Partnership** - https://beeinformed.org/
   The Bee Informed Partnership is a nonprofit organization that is focused on collecting data from beekeeping operations of all sizes and analyzing that data for indicators of hive

health. Their Tech Transfer teams follow commercial operations, sampling several times a year, to track how the beekeepers' hives are doing and provide management recommendations based off of their analyses. BIP also provides emergency response kits to any operation that is concerned about failing colonies, and manage the Sentinel Apiary program where beekeepers monitor and record hive health and colony weight that are then added to a national database. Needless to say, BIP is a data driven organization. I often go to their website to visualize trends in hive health across the nation, within individual states, and even down to counties in some states. The results from the National Loss and Management Survey can provide some insight into colony losses for each state and different management practices beekeepers used. If you're the type of person that likes to mess with data and identify trends, this is the website for you!

Varroa Mites

If you've ever met me, read one of my articles, or heard me give a presentation, you know that at some point I'm going to bring up Varroa mite management. It's not because I don't know what else to talk about, rather it's because I'm passionate about educating you guys about the risks associated with this pest and how you can best prevent these critters from being a problem for your bees. Over the years I've seen some pretty interesting ideas on how to manage these mites in a honey bee colony, but I like sticking to practices that have been rigorously tested and shown to be an effective management technique. I've listed a couple of my favorite resources to use when I have questions about managing Varroa in a honey bee colony.

1. **Honey Bee Health Coalition** - https://honeybeehealthcoalition.org/Varroa/
   I mentioned the HBHC earlier when I referenced their Best Management Practices document, however their first big accomplishment was generating materials on how best to manage Varroa mites in a honey bee colony. Below are three main resources that all go hand-in-hand, so if you're going to use one of them, you might as well use all of them.

   a. **Tools for Varroa Management**
      This is a comprehensive guide that covers the basic biology of Varroa mites, how they interact with a honey bee colony, how to monitor their populations level, and methods of managing them in a honey bee colony. I tell beekeepers to use this guide to determine their Varroa management plan so you have a course of action in place if you get into a situation where your Varroa levels are out of control. This document is another "live" document, so make sure to check the website from time to time to make sure you have the most up-to-date information.

   b. **Varroa Videos**
      On the HBHC website there are several narrated videos that provide a visual to many of the topics covered in the Tools for Varroa Management guide. Many of the videos show how to apply the treatments discussed in the guide, but the other videos cover sampling methods, requeening, sanitation methods, and an overview of Integrated Pest Management. If you are more of a visual learner, these videos will help reinforce the information you read in the guide.

c. **Varroa Management Decision Tool**
When you read through the Tools for Varroa Management guide, there's a possibility that you will find that the amount of information provided to be a bit overwhelming, especially when it comes to understanding the ins and outs of the different treatment methods. This online decision tool was developed to help beekeepers determine which treatment method is best based on answering five simple questions about the current status of your hive. I encourage you to play around with this tool to better familiarize yourself with the questions and how your answers may impact the results that you get at the end.

2. **MiteCheck website and phone application** - https://research.beeinformed.org/mitecheck/
MiteCheck is a national data-driven program generated by several different universities and pollinator organizations. The goal of this program is to collect information about mite populations across the US and Canada throughout the year. On their website you can see results for each county based on a certain time frame and see how mite population levels change over time. The creators of MiteCheck recently developed a phone application that has information on how to monitor for Varroa mites, a Shake Trainer that teaches you how to shake your sample, and provides a space to enter in your current mite sampling results that are then added to the national database. Your name, contact information, and apiary location are kept private. The only information that is visible on the website are the mite count results for the county where your hives are located.

Pollinator Plants

From time to time our office gets questions about pollinator-friendly plants. I don't claim to be an expert in this area, especially since Texas is such a large and ecologically diverse state. Therefore, I usually suggest that beekeepers/homeowners reach out to their local Extension office to get information that is specific to their area, however there are some online resources that I reference as alternatives.

1. **Xerces Society** - https://www.xerces.org/
The Xerces Society is a nonprofit organization that is focused on the conservation of invertebrates and their natural habitats, however they have a lot of great information specific to pollinators. Under the Pollinator Conservation Resources Center page you can select your region of North American to filter out documents and information that are specific to that area. Once you have selected the region of interest you can narrow down your search even more by using the "Keywords" section. They also provide lists of native plants that are pollinator-friendly and narrow them down to specific regions to North America (https://www.xerces.org/pollinator-conservation/pollinator-friendly-plant-lists). In addition, you can also find information on how to manage pollinator habitats, how to provide ideal nesting sites to native pollinators, and how to manage your garden so that is friendly to pollinators. This website is full of useful information that you could spend hours perusing.

2. **Native American Seed Company** - https://www.seedsource.com/
   This company is based in Texas and provides seed mixes suitable for the different regions of Texas that are appealing to pollinators and other types of wildlife. They also have a lot of great information on their website about how to prepare your land for wildflower plantings and how best to manage it.

As I mentioned before, the websites highlighted in this article are only the tip of the iceberg. There are plenty of other online resources you can turn to, and we have several more listed on our own website under the Beekeepers tab, then "Educational Resources" (https://txbeeinspection.tamu.edu/beekeepers/educational-resources/). I hope you check out every website listed here in this article and learn something new from at least one of them. In the meantime, if you have any questions or comments, please don't hesitate to contact our office (979-845-9713, tais@tamu.edu). I hope you have a great start to your spring!

Happy Beekeeping!

Walker Honey Farm
PURE NATURAL HONEY

Walker Honey Farm Wishes to Congratulate

Faybert Nixon

of Luling, TX

On a bumper crop of honey in his 90th year!

Thanks for letting us buy your honey for the last 20 years.
You have always produced above average crops on strong healthy hives.

We couldn't be more pleased to be associated with you and Barbara.
We hope to still swing by for a visit and to go for Mexican food.
We will call ahead... so Barbara can make cookies!

Walker Honey Farm Production Crew Enjoying Barbara Nixon's Famous Cookies

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April 18 & 19

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April 19th at Old Security Farms
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Gear available for purchase if needed.

Sharp Drop in Honey Prices Threatens New Harm

from Catch The Buzz, by John Cox

A sharp drop in the price of honey threatens new harm to an already battered industry that every year provides an integral service to Kern County's $1.2 billion almond industry.

U.S. beekeepers say a recent glut of honey imported from Asia and elsewhere has caused prices to plummet during the last 12 months, past the point at which U.S. producers can hope to make a profit. Honey's flagging popularity as a sweetener has also lowered honey prices.

The situation is not likely to impact the pollination expected to take place next month as almond orchards bloom across the Central Valley.

But there is expected to be some effect on the almond industry eventually if low honey prices persist.

Just what that impact would be, and whether it's good or bad for almond growers, is unclear.

Because beekeepers on average get about a third of their annual income from honey production, according to Rabo AgriFinance, there is some concern the price drop will force some operations out of business.

That could lower the supply of pollinators available to service local almond orchards. It's also possible, however, that beekeepers leaving the business would sell to others who would simply absorb the extra bee colonies.

On the other hand, some are speculating that beekeepers less focused on honey production would respond by turning their attention more squarely toward the Central Valley's annual almond pollination, which Rabo AgriFinance said makes up close to half of beekeepers' income.

"If there's less reliance on honey as a revenue stream, then that makes the pollination part of the game that much more critical" to beekeepers, said Roland Fumasi, senior analyst at Rabo AgriFinance.

But Montana beekeeper Bill Dahle, who expects to have about 10,000 colonies for rental to local almond growers next month after losing 40 percent of his inventory last year, said lower honey prices will "absolutely" lead to fewer bees available for pollination in the future.

"There's no way that pollination by itself will pay the bills," he said. "You just cannot do it on pollination (income) alone." Shafter beekeeper and bee broker Mike Mulligan agreed, saying the lower honey prices will remove about a quarter of some beekeepers' annual income and "that's going to be enough to knock some guys out."

"It's just going to really depress this industry further," he said.

According to U.S. Department of Agriculture data, honey prices paid to producers averaged $2.17 per pound in 2018. Although USDA's official 2019 price report is not yet available, Fumasi said recent price reports show U.S. domestic prices have fallen to between $1.80 to $1.25 per pound, depending on the type and source.

Beekeepers say they do sometimes have to decide between focusing on honey production and preparing for the almond pollination. They say their actions can have implications for the availability and price of rental bee colonies, which for almond growers have increased from $50 or lower as recently as the early 2000s to about $200 this year.

The way this selection generally happens is that beekeepers trying to maximize honey production tend to keep their bee colonies large and intact through summer. But if the desire is to prepare for the almond pollination, where the emphasis is on offering high volumes of colonies for rent, beekeepers often divide their colonies in half and introduce a second queen.

The drop in honey prices has come as beekeepers continue to struggle with massive die-offs believed to be caused by a variety of factors including an insidious parasite called the varroa mite. Pesticides and fungicides are also seen as a threat to bee health. Adding to beekeepers' troubles are high trucking costs and a tight market for experienced labor.

At the same time, almond acreage in California — far and away the leader in global production — has risen significantly in recent years, even as international tariffs have limited prices.

The added acreage has put pressure on beekeepers to deliver more and more pollinators. But that has become difficult in light of annual colony losses.

Josette Lewis, director of agricultural affairs at the Almond Board of California, said she was unaware of growers having trouble finding sufficient numbers of bee colonies this year.

The Wonderful Co., one of the world's largest almond producers, said it expects to have enough bees to pollinate its orchards next month.

"While it's still a bit early for us to know how well all of our bees have fared," spokesman Mark Carmel said by email, "initial indications are that this will be an average or better than average year."

City of Orange beekeeper Steve Wernett envisioned a situation in which Midwestern beekeepers' lack of income from honey sales keeps them from being able to pay to transport their bees to California for the almond bloom, leading to higher bee rental prices in Kern.

Then, the following year, he said, there could be an overcompensation in which beekeepers try to capitalize on the higher pollination prices, leading to a glut of bees and lower pollination fees.

He blamed the lower prices on major U.S. retailers insisting on lower prices. He said that, in turn, leads to blending of domestic and imported honey, resulting in lower quality.

"I don't know how it's going to be rectified," he said.


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OUR FEATURED SPEAKER
WORLD RENOWNED
BIOLOGIST RESEARCHER
AND AUTHOR
THOMAS D. SEELEY

Important Announcement
Boll Weevil Eradication Treatment

The Texas Boll Weevil Eradication Foundation will be conducting eradication and treatment activities in the following counties:

Ten counties are located in the Lower Rio Grande Valley (LRGV): Brooks, Cameron, Hidalgo, Jim Hogg, Kenedy, Maverick, Starr, Webb, Willacy, and Zapata.

Twenty-six counties are in the East Texas Management Area – Region 2 (ETMA2), including the formerly designated South Texas/Winter Garden zone (STWG): Aransas, Atascosa, Bee, Bexar, Calhoun, DeWitt, Dimmit, Duval, Frio, Goliad, Jim Wells, Karnes, Kinney, Kleberg, La Salle, Lavaca, Live Oak, McMullen, Medina, Nueces, Refugio, San Patricio, Uvalde, Victoria, Wilson, and Zavala.

If you have, or will have, honey bee colonies in these counties and they are near cotton fields, please notify the Foundation of the location of hives. The Foundation will monitor the Foundation treatment activities in the areas where honey bee hives are located near cotton fields and will notify you prior to Foundation chemical treatments upon your request, so that steps may be taken to protect the safety of the hives. For more information about this program and to receive Foundation treatment notifications near cotton fields, please call the Texas Boll Weevil Eradication Foundation at 1-800-687-1212.

The Brantley Column

from S. S. Brantley
2016 Life Member Texas Beekeepers Association
2017 Life Member Louisiana Beekeepers Association

The new year is already in bloom. I am seeing henbit, dandelions, wild onions and little blue daisies showing in lawns around town. Crimson clover is already growing in fields and roadside, though it will not bloom for several more weeks. Elm trees are blooming and Chinese Magnolias have large blossoms soon to open. Unfortunately, some of this will probably be frozen as our last freeze date is not usually until early-to-mid March. During February, days will be getting longer and warmer. Hive inspections can be made now to determine colony conditions. You should see five-to-six frames of brood in most of your hives. In more productive hives, you may even see eight–to-ten frames of brood. It is too early to consider splitting the hive unless you already have a mated queen to put in the split. It is too early for drones to fly to mate with any virgin queen that may have hatched.

You should check all hives for food stores. It is not too early to begin feeding a purchased liquid feed or your own 2-to-1 sugar solution. Small pieces of pollen patty may be placed on the top bars or inner cover. Allow the bees to consume most of the patty before adding a new piece. Decisions need to be made about how you feed sugar syrup – inside the hive using an in-line feeder (takes the place of one or two frames) or the plastic bag method or outside the hive using an entrance feeder (such as the Boardman) or feeding with an open feeder (2-5 gallon bucket where not only your bees but also all of the neighborhood bees can come to feed). If you chose the open feeding method, do not place your open feeder in an area with a lot of pedestrian traffic. Also, put the open feeder in a different part of the yard and some distance away from your hives to keep the robbing instinct at a low level. I do not like to feed my neighbor's bees so I will use an inside feeding method. Putting several quart jars on Boardman feeders and placing them inside the hive on the inner cover works well as long as you surround them with a bee-tight hive body and replace the outer cover.

Woodenware maintenance should continue. Repair and paint your used equipment so it will be ready for that first unexpected swarm. You could dedicate a couple of your worst hive bodies to become swarm traps. A good swarm trap should be tight (duct tape any holes or cracks), smell good to bees and be hung in a shady location. A frame of drawn comb or even a used frame with a couple inches of comb hanging from the top bar will help the swarm get started. If you don't have enough drawn frames to fill the box, you may fill the rest of the hive body with frames that have no foundation. Bees will often build perfect pancakes of wax inside each frame. Bees that do cooperate and draw neat frames for you make it much easier to move the swarm into a new hive.

Hives with only two frames of brood can be augmented with frames of capped brood from other hives. Remove one or two frames of capped brood from another hive, making sure the bees are still on the frames. Place them in the weak hive that only has a couple frames of brood. I always try to have a frame of empty drawn comb next to the queen and her two frames of brood. The bees on the frames you removed from the other hive will be mostly nurse bees and will not fight or leave the hive. You need the nurse bees to keep the brood warm so they will hatch. Any forager bees that were on those frames will most likely leave the new hive and return to their original hive.

During February, any plastic foundation in a hive that has not been properly drawn should be removed and given a new coating of liquid wax. Melt your old wax cappings in a crock pot and apply with a small brush or roller to bare areas on the plastic foundation. I have found that bees often will not attach new wax to bare areas of plastic foundation but would rather "pancake" any new comb from the bottom of the existing comb. This just makes a mess and gives the queen a place to hide so you have a really hard time finding her. Coating the bare areas with melted cappings usually encourages the bees to begin properly drawing out that spot.

Order Your "Sweet as Peaches" Nucs & Packages NOW for 2020

SPRING 2020

Nucs are $250 with an $85 deposit

Each nuc comes with two to three frames of brood eggs and larva one pollen/nectar and one honey/nectar frame. All nucs will have mated queen and have gone through at least one brood cycle and had a spring mite treatment

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Texas Honey Bee Education Association Update

Impact Report - 2019

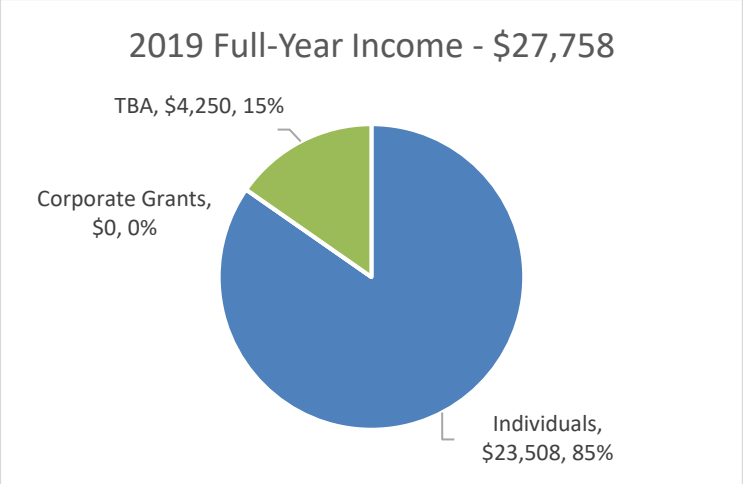
January 2020 *TBA Journal*
by Roger Farr – THBEA 2019/20 Chairman

Howdy, fellow Texas beekeepers!

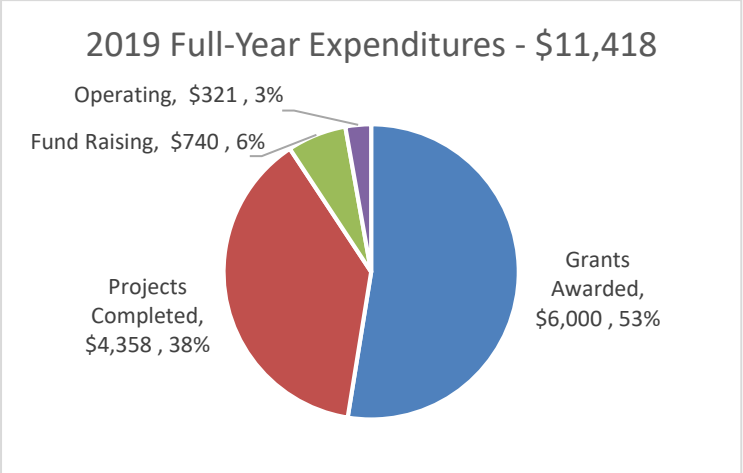
The Texas Honey Bee Education Association (THBEA) had a great 2019. The THBEA board and I are eager to share with you the accomplishments of 2019, and show opportunities where you can be involved in our 2020 projects.

Finances

THBEA received $27,758 dollars in donations for 2019 with 85% of our income from individuals who agree with and support the work of THBEA. TBA's primary support this year is for the TxDMV license plate deposit. Our plans for 2020 include increasing our grant income through focused requests to private foundations for some of our projects.



Over 92% of our expenditures went toward projects and grants supporting THBEA's mission. We were unable to complete all of our granting plans and projects in 2019, so these expenditures will roll over to 2020 utilizing the funds raised in 2019.



THBEA's equity at the end of 2019 is $47,444. These funds will allow THBEA to expand its reach in developing and sponsoring youth programs, educational materials for beekeepers and the general public, and the funding of research through partnerships with like-minded organizations.

Projects Completed

THBEA's *NewBees' Guide to Texas Beekeeping* is enjoying wide distribution and very positive feedback from beekeepers and TBA-member beekeeping associations. We exhausted our initial press run of 5000 copies in mid-2019 and are now distributing another 5000 copies to beginning and intermediate beekeepers.

THBEA again supported TBA with a grant to conduct its 2018/19 Honey Queen program. The TBA Honey Queen competed at the American Beekeeping Federation and is now the American Honey Queen. Congratulations, Mary Reisinger!

THBEA offered grants to TBA-member beekeeping associations to develop and conduct a youth beekeeping education program within their membership and local community. We expect to award these grants shortly.

THBEA attended over 20 industry events with an information table to promote beekeeping and honey bee awareness. We estimate we reached over 10,000 individual beekeepers, industry supporters, and members of the general public in 2019.

Plans for 2020

Our activities in 2020 are centered on engaging an even larger segment of the general public in financial and practical support for honey bees. We plan to do this with an information campaign including brochures, videos, and an expanded social media presence. We'll also solicit funds from the general public through outright gifts or bequests.

We expect to have the specialty license plate available from the Texas Department of Motor Vehicles in 2020. Our design is in final editing with TxDMV and should go to production soon. This could provide a substantial increase in funds in 2021 and beyond.

Volunteers are also stepping forward with their skills and abilities to assist THBEA in applying for grants, producing materials and videos, and in manning our information tables. We plan to request project grants from these private foundations for our public information activities. Thanks so much for your support in 2019. We look forward to a great 2020! You can support the work of THBEA by donating at www.thbea.com/donate/.

THBEA 2019/20 Board - Chris Doggett (Vice-Chair), Roger Farr (Chair), Chris Moore, Ashley Ralph, John Swan, Rebecca Vaughan, and Terry Wright
Executive Secretary - Leesa Hyder, Treasurer – Barbi Rose

Wisdom…

article by: Robin L-S Young, Metro Beekeepers Association

When your life and livelihood depend on the weather where do you go for the most accurate information? I am sharing these little snippets of my life because I want you to understand the place where this information comes from and why I value it more than just about anything I see on TV or the internet.

Growing up in the mid-west there was nothing but farming/ranching and looking forward to the huge family potluck after Sunday church followed by a Pitch, Spades, Rummy, or Uno card playing tournament. My grandfather was colorblind, so I got to sit on his lap to help in the games. I learned so much during those games, but it took time to truly understand the value of that time spent. During the week, there were three channels on TV and one of them carried nothing but farming information, weather, and "Hee-Haw". The second channel was PBS and we had shows such as "Captain Kangaroo" in the mornings and "The Lawrence Welk Show" in the evenings. The third channel's reception was so bad we hardly bothered. When my family moved to Texas (1980), I thought I had reached "the promised land" with the largest broadcast TV mix except, "Why wasn't everyone on horseback?".

When I hit middle school, our science class lessons were on how a mini-ice age was coming. We were even shown diagrams of a solar array systems that would be built to orbit the earth to collect energy and then beam it back to earth to be collected in an energy port, or to warm sections of the earth during the predicted mini-ice age. At the time I thought it sounded like an idea from "Star Wars", a new death star. That was when I started questioning everything.

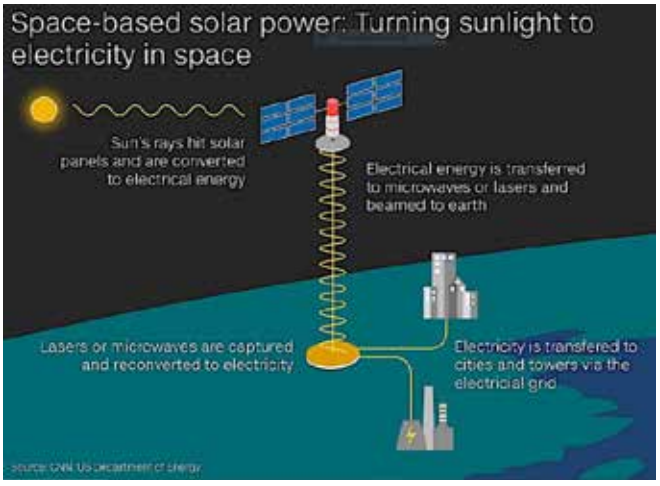


Photo: US Department of Energy

At school in 1986, I watched "live", the Challenger shuttle craft Blow-Up on launch. I was in eighth grade. The whole class was in shock. The following weeks the nightly news was covered with stories of and questions of: "How did this happen?". It was so incredible to see how hard all these scientists worked to keep astronauts alive and all the calculations they went through. I learned about all the amazing problems they had to solve just to achieve landing on the moon. I also learned how important weather is to launching space shuttles.

Young Ranch 2020

Over the past twenty years, I have been responsible for timing on planting our yearly crop of Sudan-grass. Sudan-grass is a tropical grass that we bale into large round bales to feed our cattle. I have found that cattle and horses will eat every leaf/stalk they can over mixed grasses and other types of hay mainly because Sudan-grass is sweeter and closer related to sugar cane. We have horses that are over 35 years old that are feed round bales of Sudan-grass during the hottest parts of summer and in winter. There are some down sides to Sudan-grass:

- If you let your cattle eat on the Sudan-grass while it is growing, you risk them dying of prussic acid poisoning.
- After you bale the hay you must wait three months to feed it or get it tested to find out the level of nitrate in the hay or you can kill all your cattle.
- To maintain it's high protein value, it must be harvested before it "heads out" or starts to grow it's seeds stalk.
- One night (10 hours) of below freezing temperatures will kill the Sudan-grass almost instantly

Our ranch spends anywhere from fifty to one hundred thousand a year growing Sudan-grass to feed all our cattle. When we start planting our hay could depend on if we get one cutting of hay, around 500+ large round bales, or two to three cuttings of round bales which can double or triple our

Wisdom…

article by: Robin L-S Young, Metro Beekeepers Association

harvest. Of the twenty years that this decision has set on my shoulders, only one year was a close one. I planted all the seed and we had a freeze a week later. The following two weeks I held my breath hoping I did not loose the whole crop. Lucky, it all finally sprouted.

I use the information that I gather to calculate when to plant, when to wait, or when to skip planting all together. I also use this information the same way with beekeeping. It tells me if this is the year to expand my operation or not. Before I go on, here is where I start to get hard data:
https://www.nasa.gov/

Photo below of a solar flare by: NASA

I am looking for articles on the sun, "sunspots"/solar flares, and volcanic activity around the world. I don't go out and count how many farts my cows make…lol…/wink. When the sun has heavy sunspot activity, in three months you can expect it to be hotter and possibly dryer than usual. The time it takes the heat from the sunspots to hit the earth is around eight minutes and twenty seconds (per NASA), but it takes time for the heat from the sunspots to heat the earth and build up. Cloud cover is also a factor and dust particles from volcanic eruptions can throw massive amount of dust particles in the air to reflect the heat away from the earth. Any volcanic action that cause airports to shut down becomes a factor in my calculations. Once I think I have an idea of that the next six months weather is going to look like I watch a show called "U.S. Farm Report":

https://www.agweb.com/usfr
https://www.facebook.com/USFarmReport

or just do a search for: U.S. Farm Report.

Below is what I do with all this information regarding beekeeping. The possible conclusions I am giving is for **my area (DFW).** Adjust accordingly to where you live:

- If my research shows the sun has gone quiet (no sunspots) like NASA is reporting for 2020, it should be a colder summer. I will be planting crops later this year and if I did not leave enough food stores for my bees, I may have to feed my bees this spring, but I may not need to feed them this summer. Also, if I do splits or buy package bees, I may save some money this year on feeding because I may not have to feed as much during July and August.
- If there are lots of sunspots or high activity predicted by NASA, it's going to be a hot summer that may require feeding my bees in July, August and maybe in September. That makes splitting hives and installing package bees too expensive in a year like this. I may just only add a few hives or stop adding any new hives this year and just take actions to maintain my active hive count.

I could go on, but hopefully you can see how making an "educated guess" can help save you money on when to grow or not grow your beekeeping business.

If you every get upset or unsure of what the weather will be in the future to the point you can't sleep at night, I want to share a promise that was made to all of us on planet earth:

Genesis 8:22 *"While the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease."*

This promise/information is so important that God put it in the first book of the Bible. Don't let anyone bring fear into your life.

Photo: "Time Magazine" Through the Years

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

2020 Texas Honey Princess

Blake Nester

After starting beekeeping in 2011 and realizing what beneficial products are in a hive, I decided I wanted to make skincare products. Together my mom and I started our research. Our first mistake was that we did not start out simple. Most people would usually start with a Chapstick or some version of a lotion bar. We decided to go straight for soap. If you know anything about soap, you know that it involves a chemical that will burn you (sodium hydroxide). So we geared up in our gloves and goggles and made our first attempt at soap. We later made our second mistake when we tried to add yellow food coloring. Yellow turned into a nasty orange, and finally a pea green. I love this story because it shows how far I have come in my research as well as my skills. Skincare is not always as simple as it seems, but that is why I love it.

I admire beeswax because it can be used for so much more than skincare. It can be used for waterproofing shoes, polishing wood, and treating horses hooves. At the Austin Area Beekeeping Seminars, Dodie Silverman taught a wonderful class on beeswax. In her class she showed how to make earrings, tea light candles and my favorite, bees wrap. With just a few scraps of cloth, beeswax and an iron, we made a reusable material that can keep food from spoiling.

Beeswax does a great job of keeping things fresh, this is one of the reasons why it is a great resource to use in skincare. It is also moisturizing, anti-bacterial, anti-fungal, and anti-inflammatory. Beeswax can reduce many types of scarring, like acne and stretch marks. Since it is packed with vitamin A and is a skin protector, it is ideal for children and babies as well as adults.

Like beeswax, propolis is also anti-bacterial, anti-viral, and antifungal. This makes propolis ideal for wound care. Propolis stimulates blood flow to the affected area and reduces the inflammation. Propolis can be used to heal acne, psoriasis, bug bites, and possibly cancer cells. The University of Chicago Medical Center has been studying the impact of caffeic acid phenethyl ester (CAPE), a main component found in honey bee propolis.

Products from the hive have already shown great results in healing serious conditions. For example, the introduction of Medihoney has been ideal for many burn victims all over the world. Honey is highly recommended for coughing, digestion, and boosting energy. Although it is not scientifically proven, many people eat honey in their local area to help improve allergies using the local pollen in the honey.

Combining these products from the hive with carrier oils can create super healing products. Some of the most popular oils include olive oil and jojoba oil, that help with anti age, dark spots, and cleansing. Avocado oil and babassu oil are great choices for people with sensitive skin. They brighten skin and absorb quickly. Coconut oil and sweet almond oil are most commonly used due to their ability to reduce redness and dry skin.

It is important for skincare to feel good as well as smell good. This can be achieved by using organic essential oils. Not only do they smell good but many of them have healing properties to add to your products. Lavender, orange, patchouli, tea tree, and lemon oils are very popular in facial products. These oils can lighten dark circles, correct fine lines and acne scarring, clean pores by killing bacteria, reduce excess oil from the face, and decrease redness.

With these oils, making healing products can be easy. Adding a propolis tincture to a Chapstick can make a preventative for cold sores and dry lips. Including more beeswax and propolis to a lotion bar can make cracked skin heal at a rapid pace. A mixture of the carrier and essential oils can create a simple hair or facial mask.

Using products from the hive can improve the state of everyday items as well as the human skin. I encourage everyone to at least try their hand at making skincare or a beeswax product. It is a great way to express creativity through beekeeping.

If you'd like to have the Texas Honey Queen or Texas Honey Princess appear at an event, please email us and include the following information: Event date: Event location: Event time: Event purpose:
tx.honeyqueen.prg@gmail.com

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Lighting the Flame

Photo - Hudson Old, *East Texas Journal* Photography

"The Continuing Journey of Two Seventh-Year Small-Scale Beekeepers"
TBA Journal Article – January 2020

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

Pictures are by the authors unless otherwise indicated.

A celebration of life. Christmas Eve. A wedding ceremony. Midnight on Dec. 31. One person with a brightly lit candle lights another person's candle, and those two, light two more. Soon, the darkness becomes warm light, and the gathered individuals become a united band. It starts with one in the darkness. It ends with many in the light.

January is a time for these beekeepers, Roger and Sue, to look back, to look forward, and to look around.

Looking back over our 2019 bee season, we ask each other, "What went well? What didn't go so well? What could we do to improve?" Splits, making and selling nucs, honey production, and varroa control went well. We split our hives hard and sold every nuc we made. We sold or gave away all the excess honey our girls made, and people asked for more. We treated with oxalic acid in December 2019, and mite loads were low all year. We had several opportunities to speak about bees and beekeeping. Those things went well.

Some things did not go well. Queen rearing was difficult. Late freezes and days of steady rain narrowed the opportunities for virgin queens to mate well. Mentoring NewBees was difficult. Some did not want any help, and we saw them flounder. Yes, some things did not go well.

Thirsty winter bees find water in our cat bowls!

We have already begun making improvements to the ways we keep bees. We moved our nuc yard to provide easier vehicle access. We took John Stewart's counsel and have plans to install swarm boxes to catch our own swarms. We processed most of our honey into creamed honey, and we will increase this even more this year. We discarded plastic foundation our bees do not like. We

incorporated equipment into our operation from a NewBee who decided to get out of beekeeping. Small changes can bring substantial improvements.

Looking forward is easy because our bees are healthy, well-resourced, rightly-sized, and productive. Several NewBees have decided to purchase our nucs and queen cells; we have decided to not sell mated queens. We're discovering and planting new-to-us bee forage plants. Roger bought comfortable boots for both of us, and Sue is making repairs to bee jackets and gloves; the Texas heat is hard on the elastic! We don't have another daughter's wedding to execute this spring. We will be ready. We're planning our international travels around our bee-rearing schedule.

We make available clear, unchlorinated water from our septic system; the bees love it for the trace minerals contained therein!

Looking around reminds us that beekeeping is really about people. Teachers, customers, neighbors, mentors, co-laborers, school students, and strangers keep beekeeping interesting. Albert Schweitzer said, "At times our own light goes out and is rekindled by a spark from another person. Each of us has cause to think with deep gratitude of those who have lighted the flame within us." Jesse, Terry, Lisa, Dale, Chris, Jean, John, and so many others: you have lit the flame within us, and we are grateful.

Look back. Look forward. Look around. Squeeze every life lesson from beekeeping that you can. Enjoy and share what you learn!

We'd love to hear about your beekeeping adventures!

Roger and Sue Farr rdfarr@gmail.com; sue.farr1@gmail.com

Central Texas
Beekeepers Association

12th Annual Beekeeping School

Saturday, March 21, 2020
Brenham High School
525 A. H. Ehrig Drive, Brenham, Texas

Whether you are a complete beginner or an experienced beekeeper, there will be something of interest to you!

A preliminary list of courses is given on the back of this flyer.

We have classes for Beginner, Intermediate and Advanced Beekeepers

Cost, including Lunch and Snacks:

Individual	$65
Additional Adult	$60
Student (Including College)	$25
Children Under 12	$10

(Prices good until March 18! Late Registrations and Walk-ups are higher!)

Register at: www.tinyurl.com/2020BeeSchool

Please visit us at www.centraltexasbeekeepers.org

email centraltexasbeekeepers@gmail.com or call 979-277-0411

for more information or to be added to our mailing list.

Visit us on Facebook at:
CentralTexasBeekeepersAssociationandFriends

2020 Central Texas Beekeepers School Topics and Presenters as of January 15	
Topic	**Presenter**
Ag Valuation	Dennis Herbert
Annual Management	Ashley Ralph
Backyard Queen Rearing	DC Padgett
Bee Behavior	Ashley Ralph
Bee Safety: What to do when things go wrong	Brandon Fehrenkamp
Beekeeping 101 Part 1 & Part 2	Chris Doggett
Beekeeping 202 Part 1 & Part 2	Lance Wilson
Beekeeping on a Budget	Justin Russell
Flow Hive	Nannette Davis
Growing from Sideliner to Commercial	Justin Russell
Healing with Honey and Propolis	Carolyn Gibson
Hive Inspection I and II	Cameron Crane
Honey Bee Nutritional Ecology	Pierre Lau
Honey Harvesting	Shelley Rice
How to Make a Vertical Beehive Split; A Key to Sustainable Beekeeping	Randy Oakley
Honey Properties & Crystallization	Tara Chapman
Integrated Pest Management	Mary Reed
Introduction to Bee Removals	Brandon Fehrenkamp
It's Your Wax	Dodie Stillman
Live Bee Demo	Michelle Kerr-Pankonien
Making and Keeping Splits	Cameron Crane
Maximizing Honey Harvest	James and Chari Elam
Natural Beekeeping	Les Crowder
Panel Discussion: Asks the Pro's	E.T. Ash, Art Tomas, Lauren Ward
Panel Discussion: Common Sense Beekeeping and Beyond	E.T. Ash, Art Tomas, Lauren Ward
Planting for Pollinators	Amy Thomsen
Practices that Seem to Reduce Losses (BIP Survey Results)	Dan Aurell
Requeening Your Hive	Tara Chapman
Selling Bees and Nucs	E.T. Ash
Sentinel Apiary Program & Adopt-a-Field Specialist	Dan Aurell
Sustainable Brood Disease & Pest Management	Lance Wilson
Swarm Catching & Keeping	Justin Russell
Texas Apiary Laws	Mary Reed
Temperature vs. Varroa Mite	Lynn Willams
Top Bar Part 1, Part 2 & Part 3	Les Crowder
Top Bar vs. Langstroth	John Swan
Utilizing Double Nucs for Sustainable Apiary	James and Chari Elam
Varroa Behavior and Biology	Taylor Reams
What Should I Order	John Swan

Note: Courses subject to change based on speaker availability.

BEE INFORMED PARTNERSHIP, INC.
4112 Plant Sciences Building, College Park, MD 20742

Technical-Transfer Team Honey Bee Health Field Specialist

Position Announcement

The Bee Informed Partnership (www.beeinformed.org) is seeking an additional **Technical Transfer Team Honey Bee Health Field Specialist** to work with commercial beekeepers in the Southern Midwest region. The Team member will serve beekeepers in the home state of Texas, and travel frequently to North and South Dakota, and California, following colony migration through the seasons. The salary range is $45,000-52,000 (based on experience) per year and will include full medical and retirement benefits.

This position is based out of Texas A & M University. An applicant from outside of the region would be required to relocate to the area.

The position requires at least 3 years beekeeping experience, preferably in a commercial beekeeping setting. It entails intense fieldwork at times, extensive travel, close interaction with beekeepers and many other members of the Bee Informed Partnership (BIP) team. *These interactions require the applicant to be a good beekeeper, work well in a team environment, listen well, be non-judgmental, communicate effectively with team members, be self-starting, hardworking, organized and sensitive about privacy and security of all data collected.* The job also entails the following:

Field Work

- Be the primary contact between BIP and the commercial beekeepers to establish sampling goals, coordinate virus/pest/hygienic sampling and testing, present results, collect treatment and management data, and conduct operational reviews/surveys.
- Accurately, efficiently, and confidently, identify, diagnose, record, and report biotic and abiotic components of a honey bee colony through inspections and assessments
- Lift heavy honey supers to sample the broodnest during honey production
- Collect a wide range of samples from colonies to be tested for but not limited to the following: parasitic mites, Nosema, viruses, pesticides, reproductive potential and hygienic testing
- Work with and ship hazardous materials such as dry ice, liquid nitrogen, alcohol and live bees
- Have a clean driving record and be capable of safely operating a vehicle off road in a variety of ground conditions
- Travel is required, often to somewhat remote areas, occasionally with limited notice. On average, 5-8 trips are made each year with time spent away from home at or exceeding 100 days/year. Most of the trips involve considerable driving.
- At times, travel to assist other teams may be required. Not only does this help the hosting team, but it provides cross training across regions.

Lab and Administrative Work

- Work with BIP scientists to develop and conduct applied experiments, and industry trials.
- Keep and maintain beekeepers' records, manage information
- Manage BIP lab space at the home institution, including purchasing supplies
- Manage own travel plans including reservations, receipts, etc.
- Keep records and receipts of purchases such gas, equipment, etc.
- Use in-field mobile applications for colony health assessment data entry. Be able to accurately locate yards based on GPS coordinates and record those locations.
- Responsible for the maintenance of the BIP field truck.
- Use of Google calendar is required for scheduling beekeeper visits, meetings, etc.

Communication

- Write a bimonthly BIP blog.
- Develop presentations, posters and other media for the promotion of BIP programs and project related goals. Present at local, regional and national meetings when required.
- Contribute to quarterly BIP newsletter.
- Help develop training manuals, beekeeper guides and other outreach material as needed.
- Attend bimonthly Tech Team video calls and other meetings when required.
- Attend twice yearly in-person meetings with the entire BIP team. One of these meetings is usually at the national conference in January and the other one is typically held in the summer.
- Keep abreast of and be able to communicate new developments in relevant topics (bee science, management, legislation, etc.)

General

- Willingness to adapt at a moment's notice, enjoy a thrilling fast paced atmosphere, and have a passion for bees

Do not hesitate to contact Anne Marie Fauvel, Tech Transfer Team Coordinator for the Bee Informed Partnership at: fauvelam@umd.edu for any inquiry regarding this position.

Application Instructions:
You may view this announcement by going to https://agrilifeas.tamu.edu/hr/careers-employment/ On this page "external applicant" instructions are on the left side while "internal applicant" instructions are on the right. If you are an "external applicant" click on the **Texas A&M AgriLife Research** link and search for **R-025690** If you are interested in applying please follow the guidelines given (including the ability to attach a resume, etc.). **FYI – all individuals must apply via this on-line application process. We CANNOT accept walk-ins or applications/resumes via email. The application deadline is February 21, 2020.**

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

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

Dear TBA members,

Happy new year! I hope 2020 is off to a good start. It definitely has been for us at the Texas A&M University's honey bee research program. On 4 January, I was invited as a speaker for the Austin Area Beekeepers Association (AABA) Bee Conference in Round Rock, TX. I presented a talk on mating biology and one on queen essentials, both of which were very well received. Our student Pierre Lau gave a total of three (yes, three!) talks, all related to his research on the nutritional ecology of bees. I always enjoy presenting at this conference because the AABA has been one of our most important supporters over the years, as they provide a sizeable donation to our research program using some of the proceeds from the conference. We have definitely forged a fruitful partnership with the AABA and I am most grateful for their support!

Soon after that meeting, Pierre was busy preparing for his next trip, this time to attend two meetings in one, from 8 to 11 January in Schaumburg, IL. Pierre traveled to the American Beekeeping Federation's Conference and Tradeshow to receive one of this year's Foundation for the Preservation of Honey Bees awards! More information about this honor can be found at http://preservationofhoneybees.org/foundation-scholarship. He joins a very select and impressive group of scholars, two of whom (Adrian Fisher II and Liz Walsh) came from our own lab! While in Illinois, Pierre also attended the annual American Bee Research Conference (ABRC), which is organized by the American Association of Professional Apiculturists, or AAPA (https://aapa.cyberbee.net/2019/announcing-abrc-and-the-national-bee-meetings-for-2020/). At this meeting, Pierre presented a poster of his research and interacted with colleagues and potential future employers. But what's best, is that he found out that he was the winner of this year's AAPA Student Research Scholarship! So his work keeps being recognized and he is making a great name for himself (and giving great credit to our lab!). Congratulations Pierre!

Now on to a bit of self-promotion. On 10 January, I attended the awards ceremony from the university's College of Agricultural and Life Science to receive the 2019 Dean's Outstanding Achievement Award for Diversity. It was an honor to be present at this ceremony, and got to be recognized by Dr. Patrick Stover, our new Vice-Chancellor and Dean.

Our students continue to impress us with their dedication and professionalism. With time flying by us, I am very proud (but a little sad as well) to announce that Dr. Liz Walsh has accepted a postdoctoral researcher position with Dr. Steve Pernal, of Agriculture and Agri-Food Canada. She is still working in our lab while her work documents are set up to work abroad, and will likely be moving up to Canada in February. Congratulations Dr. Walsh on your new position, we are sure that you will shine as a future leader in the apiculture science field!

As some of you know, I am on Faculty Development Leave (a.k.a. "sabbatical" leave) this semester. As such, I will be traveling to Australia's National University in Canberra, Australia, to collaborate with Dr. Sasha Mikheyev (https://biology.anu.edu.au/people/academics/alexander-mikheyev), Associate Professor in the Research School of Biology. Our project is related to the genetic underpinnings of Africanization in honey bees. I look forward to this collaboration and hope that we will be successful in receiving federal funding in the future.

While in Australia, I will be a guest speaker for the Southern Tablelands Beekeepers Association's Field Day on 22 February (https://www.facebook.com/Southern-Tablelands-Beekeeping-Association-NSWAA-2866830940010225/). The other guest speakers at this meeting will be Drs. Doug Somerville and Elizabeth Frost, Technical Field Specialists for honey bees in New South Wales. I will have a rare opportunity to meet with beekeepers from the region whose beekeeping operations have suffered horrible losses due to the recent brush fires in Australia. I hope to make new friendships and learn some of the ways that apiculture is practiced in that part of the world.

Finally, because I will be on sabbatical all semester and will be either abroad or traveling all over the U.S. upon my return, I will not be readily available through the end of May. 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/TAMUhoneybeelab.

Thank you for your continuous support, and I hope that this new year is off to a great start for all of you. It sure has for us at the bee lab!

Dr. Rangel with Vice-Chancellor and Dean, Dr. Patrick Stover, receiving the College of Agricultural and Life Science 2019 Dean's Outstanding Achievement Award for Diversity. Photo by Michael Kellett

Beekeeping Consulting

from Linda Williams, Owner Texas Fresh Harvest Farm,
Advanced Level Master Beekeeper, Texas Hill Country Beekeepers Association

Do you have people coming up to you asking for bee advice? Have you noticed people gathering around you for your opinion after club meetings? Do club leaders look in your direction for clarification or seeking assistance about a concept during a meeting? Then be careful! You might be heading down the road to becoming a "bee consultant!" Many bee consultants are in the field because they have years of experience under their belt. Informally they begin to realize, "Gee, I might be able to recoup some of the costs of my hives and bees if I were to charge a little bit for consulting". Others have caught the beekeeping buzz and although they don't have as much experience, they realize this is a great "niche" for them. This second group will quickly realize they will have to "fast-track" some bee experience if they desire to progress into consulting. Beekeeping is one of the fields where you can not learn solely from reading a book!

Depending on what your intentions are, you might assume this new-found role as a sideline business or elect to make it a fulltime operation. As with all business, sideline or full-time, it pays to do your due diligence in planning and structuring your business. Planning involves mission statements, business goals, researching legal guidelines in related areas you are venturing into. Ensuring you are providing the best practices in beekeeping is vital during this groundwork phase. In addition, you need to define your accounting and marketing strategies, equipment inventory and time-management strategy. Unfortunately, many do not think about these things when starting up a business and the result can be a lot of "hard lessons" that might have been avoided along with time, money, or relationships along the way.

There are many bee consultants out in our industry. Some good and some bad. The bad one's won't last long typically. But, until they run out of new beekeepers who don't know the difference, they spread poor and outdated practices to unsuspecting individuals. They do not intend to do this for the most part. Basically, they just do not have the knowledge nor the experience to advise wisely. Sadly it is the few bad consultants who give the rest of the consultants a bad image. So if you desire to become a consultant, strive to excel.

Most start up bee consultants do desire to do the best they can. Many have given small presentations to either community organizations, local clubs or schools. Public speaking skills and organization are developing with these presentations. But that alone does not make one a good bee consultant. This article is not on how to set up the typical business from the logistics viewpoint. Rather, it is geared more to some of the lessons I have learned over the past three years I have been consulting. The aim is to help any budding consultants avoid some mistakes. Number one priority in a bee consultant is to know bees! You have to have a certain amount of experience. Just a fact. I have seen and heard at club meetings individuals who are in their first year of beekeeping, who have not even over-wintered a hive yet, profess to be accomplished and ready to teach. They might have had a wonderful and lucky experience that first year and had a rockstar hive, great weather, and done well. Now they have a false sense of thinking they can go out and hand out advice. I actually want to meet the beekeeper consultant who has experience in having hives that have had problems. One who has learned valuable lessons from those experiences. One who has learned to overcome and who has developed some sound beekeeping practices as a result of these experiences.

Where does the beekeeper go to get the experience? Keep your own bees, find a mentor to grow you, hook up as a volunteer or paid employee of a commercial bee operation, work for business who raises/sells bees and nucs to name a few. You will see such a variety of beekeeping practices during your internships in ventures such as these which will go a long way.

In addition to gaining the "hand-on" experiences, education and research are two important areas that can not be neglected. Signing up for a Master Beekeeper Program in your area forces you to read and learn to validate your knowledge base by attaining the various levels. Having the credentials of being a Master Beekeeper also gives your clients some assurance you know what you are talking about. Keep up on your "bee" reading in current literature and journals such as the TBA Journal. You want to keep abreast of current trends and information coming out of the research and bee labs. Attend as many conferences as you can to gain depth and variety of information to put into your "toolbox" of skills. Once you realize "your way" of beekeeping is not the only way or not the only right way in management of bees you are really beginning to grow! I always tell my clients there are many different approaches in beekeeping that are correct but I can only tell them what worked for me and what I have been successful in and what has not worked well for me.

While you are gaining your knowledge and experience you should be developing a solid networking base of beekeeping buddies who are more knowledgable than yourself. You will need someone you can call on when you get into a situation which is way above your experience level. Remember also, here in Texas, we have the Texas Apiary Inspection Service as a great resource. Especially if you have something going wrong in a hive you just can't pinpoint. Often a call to them, possibly texting some photos, or sending in some bee samples, can aid you in identifying your problem and a solution can be made.

Armed with your solid knowledge base and competent beekeeping skills, your next consideration is where are you going to get your clients from? An obvious place is your local club meetings. Attend not only your local club, but if there are some others within a reasonable distance outside of your local club (say an hour or so) attend them also. Don't walk in and try to take over the club. Attend, watch, listen, learn, and make friendships at first. Find out how that club operates. Once people establish you as a credible beekeeper you can begin to bring in a business card, or a flyer with your services or classes you teach. Find out the rules for the clubs for advertising and also their local Facebookguidelines. If so how often can you put up an ad? Do

not abuse this. Be very tactful with any posting you place on any social media. Reread your post several times to ensure your information is accurate, stated in a kind manner, and don't come off as a "know-it-all". If you are in a leadership role in a bee club be very careful not to confuse that role with your business. They are two separate entities.

In a leadership role in a club, either formal or informal, your primary responsibility is for education and support for the club. If your club allows beeping enterprises to be advertised you may put your's out there with the rest but you should not use your position in anyway to place your business above others. As well as club meetings, you can place an ad in your local paper and host a free presentation about some aspect of bees or beekeeping for the community.

At the end of your presentation you can have a table set up with flyers, business cards and information about your beekeeping classes, bee consulting services, and local club information for anyone interested. Plus, consider getting to know your local agrilife specialist and special tax evaluation county assessor. The more people who know you and have a positive experience with you the more your credibility grows.

You can get many referrals from your clients as they talk with other beekeepers they know. Roughly over 50 percent of my clients are from personal referrals from my other clients. 30 percent are from my beekeeping classes and the remainder find me on my website or social media.

Speaking about social media -we are a knowledge driven society now, armed with technology designed to help individuals find services they want. Social media such as Facebook, Twitter, Instagram are some of the multigenerational tools used to attract clients of a wide age range. Although those are good, if you are truly serious and want to make bee consulting a solid business, you need a webpage. There are several options to explore and costs range from free to very expensive. Keep things in perspective. Select a web hosting service that will allow you to expand as your business grows. If you are not tech savvy find someone who is. Find someone who can work with you to develop a logo for your business cards. Logo's actually are not as easy to design as you think and good ones take a lot of though behind them.

So now you have the experience, know where you are going to get your clients from and now you need to figure out what to bring to on your consultation visits. It saves you a lot of time and grief if you have a dedicated set of items conveniently stored and neatly packed ready to go on your consultations. You won't have to run around all your scattered bee equipment trying to find an item. And you do need a variety of items. You never know what you will encounter on your consultations. It is no fun to say "darn I wish I had …". At the bare minimum you should have the following: Full protective suit, (no time to be macho - what someone says are nice bees might have never done a full inspection of the hive where they get more defensive) smoker, fuel, and hive tool. I carry a second full suit in case I get to my client and they only have a veil or jacket. Guaranteed I am going to make those bees mad at some point and the client can not stay at their hive and learn because they are being stung or being worried about being stung. I bring a queen excluder and a deep box in case I have to go hunting for a queen on a spring hive whose population is already at 40,000 - 50,000 strong and boilingover when I open the hive. (what a nice problem to have). I have queen cages. Often when we are re-queening, I might have need of the queen we are getting rid of versus disposing of her. Sometimes you need to temporarily trap your queen in a safe place while you do whatever it is you have to do in the hive. Have your varroa count equipment all together in one container neat and tidy. If you do any kind of oxcylic acid treatments make sure you have a respirator for yourself and your client plus your vaporizer equipment and power source. If you wear eyeglasses you better have an extra pair! If it is Spring I often bring some extra frames with comb and a nuc box or two in case you have to do some emergency splits. Often newer beekeepers do not have an excess of equipment and it is nice to be able to take care of potential swarm situations as early as you can. You can negotiate with the client about who gets the nuc! If you also do bee removals you can keep your bee vac as a possible item.
So now you are off to meet your clients. Aim to arrive 5 minutes early. Allow for extra time if you don't know the area. Once you find the place you can always pull over if you are early and answer a few phone calls while you wait for the appointment.

What type of an impression do you want to leave when you do arrive? A neat, clean vehicle with organized equipment or a dirty pickup truck where you dig around under tons of equipment trying to find an item? Trust me, first impressions do matter. When you get out of your vehicle are you neat and tidy? Do you have a nice clean shirt with possibly your business logo on it? Have you brushed your teeth and you don't smell? People get close when working beehives and if you smell it is hard to work with you. When you put your bee suit on is it clean and non-torn? You don't have to be crispy white like Mr Clean but it should be clean. Bring your own water bottle. If they offer you a drink you may take it but don't ask for it. It is fine to ask them if there is a location you may clean up after your consultation. If you are all dirty do not go into their house rather ask for a faucet and carry some cleaning supplies of your own.

Ensure you allow for enough time between consults for travel and in case you run into some problems with the first appointment. If your clients were all able to accurately describe their situation they probably would not be needing to call you. An example would be you went out to do a simple hive inspection with a new client and when you get there you find a hive that is brimming with bee's and there are swarm cells present. You are unavailable for the next three days so you really need to do something now to help that client.If you had scheduled back-to-back appointments you will have to make a decision to either stay and correct the problem or you would have to call your next appointment and reschedule or arrive late. Granted people are understanding but it does put you under more pressure and that is not a nice feeling.

Have a receipt book on you or have a system in place where you will email them a receipt. Many clients are using their bee's for tax or business purposes and need the receipt for record keeping. I add an extra touch by sending a post visit email with a write-up of what we saw, what we did, and what they need to do over the next few weeks along with any other recommendations I had. It is a little labor intensive but they love it. Once you have a system in place it takes about 10 - 15 minutes and I build that time into my cost.

Often you are teaching so much on your consultations they can not remember what the main points you need them to focus in on. This post visit write-up helps them. I have several articles

on different topics that I often attach and send with the post visit email for further education for them.

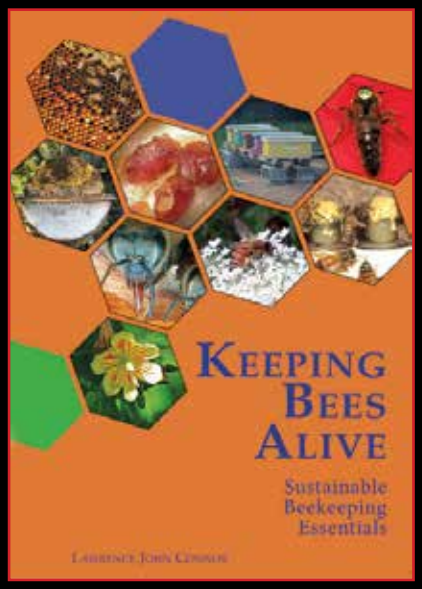
Speaking of receipts brings up the subject of determining your wages for your service. There are several factors in determining this value. You don't want to be giving your experience and time away for free yet you don't want to be so expensive that only a few can afford you and you never build up any volume. In addition, you need to factor in your experience level. Are you a newer beekeeper without credentials yet or have you been a master beekeeper for two years and give talks and classes? Travel time also impacts your price. Longer distances cost more in gas and plus your time to and from your client spent in the car is valuable. Develop a travel fee for distances beyond 30 minutes or whatever is reasonable to you. Many consultants will charge a higher price for the first hour which will take into account the travel time and a lesser price for the hours to follow. For example, $50 for the first hour regardless if they use a total hour or not . then $30 an hour prorated for the time you actually spend. I start a stopwatch timer the minute I get to the clients house to keep accurate time. Do keep in mind the clock is ticking when you are at your clients house so try to keep focused to the task. A few pleasantries of course, but don't spend 15 minutes talking about the football game or taking a tour of their house. Believe it or not it is very easy to get off track. If you do, I think ethically you need to reduce your time if you are part of the problem on not keeping on task. Be careful about becoming a "friend". Keep it on a professional level so you can continue to charge for repeat business.

Consider if you are offering any additional services requiring equipment the client might not have such as an oxcylic acid set up and respirators? Those might be "add-on" charges. You might want to research what other consultants are charging in your area. That does not mean you should charge the same as they do unless you feel their price is fair and what you were planning to charge. If you are going to charge more then you will have to justify why you are worth more than what they charge. And if you charge less is there a reason why?

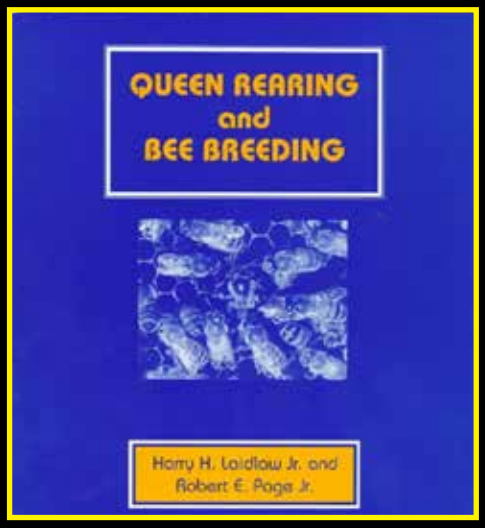
Once you start making visits you will also start to receive texts or calls from your clients. Do you charge for these or not? If it is a person who has only had me out once and keeps calling I will word my responses to inform that person I would need to come out and view the situation so I could get paid for my advice. If it is a client who I do a fair amount of visits with I don't mind the calls as they are making it up with repeat business. I have one client who periodically gives me "extra" money on top of my consultant wage because he has a lot of phone questions and he realizes my time is valuable.

As a professional courtesy don't talk bad about other bee consultant's who your clients might have used and been unhappy with. You can develop a graceful way to let your clients know you emphasize with their frustration and move forward. Something like, "It is hard to know what another beekeeper is thinking and sometimes we do get it wrong or the bee's don't respond the way we want them to. I can understand why you were upset or frustrated. Lets look at what we are dealing with now…"
Your goal as a consultant is to observe, advise, educate and walk the clients through their situations so they can become independent beekeepers. Some clients have you out only once, other's a few times, some you frequent very often and then there are those who want you to take care of their hives while they are going out of town. If you know bees, charge a reasonable amount, offer valuable information, treat your clients with respect, then you should be able to be as busy as you desire with consultation opportunities. **Good luck and happy consulting!**

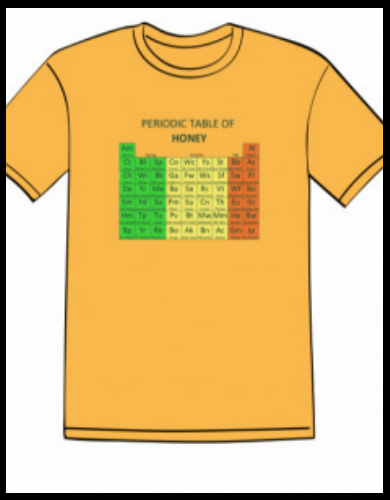
Updates from Wicwas Press!



Helpful new book by Dr. Larry Connor, discussing sustainable beekeeping and building colony numbers. $30 plus shipping.



Laidlaw and Page's classic is being pulled from the market. Last call on this valuable unique reference. $50 plus shipping. Limited supplies.



Periodic Table of Honey T-Shirt. Adult sizes S to 5X plus children's sizes. Gildan Heavy Cotton. $20 to $28 plus shipping.

1620 Miller Road, Kalamazoo, MI 49001
Quantity purchases and
Overseas orders easily arranged

Wicwas Press LLC
Quality Bee Books
www.wicwas.com

Internet-PayPal Orders at
www.wicwas.com/books

BEE HIVE THERMAL INDUSTRIES

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

Entrepreneurs Needed For Sales & Support

Are you a Texas Beekeeper?

Do you Produce & Sell Pure Texas Honey?

You may be eligible to participate in Real Texas Honey™, a non-profit organization created by the Texas Beekeepers Association to promote Texas honey as a premium product.

Texas consumers want real Texas honey. Separate your Texas honey from imports and honey from other states. We are looking for Real Texas Beekeepers to join Real Texas Honey™. If you are interested, please visit our website and learn more.

realtexashoney.com

Look for this Seal

This project was supported by the U.S. Department of Agriculture's (USDA) Agricultural Marketing Service through grant 16SCBGPTX0025. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the USDA.

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 - (512) 560-7550
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
beesintheeast@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

Big Country Beekeepers Association
Ken Hobbs - (325) 665-4045
paniolobee@icloud.com
Meetings: 3rd Tuesday of each month except December
Potters Pizza, 3802 Buffalo Gap Road, Abilene at 6:30pm

Brazoria County Beekeepers Association
Steve Brackmann - (832) 884-6141
stevenbrackmann@yahoo.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
Nathan Krueger - (979) 324-1160
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
Schlotzsky's, 3715 19th St., 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

Collin County Hobby Beekeepers Assn.
Mary-Ann Allen (214) 543-5597
president@cchba.org
www.cchba.org
Honey Queen Program: *honeyqueenchair@CCHBA.org*
Meetings: 2nd Monday of each month at 6:30 pm
Collin College Conference Center, (Central Park Campus)
2400 CommunityDr. , McKinney

Colorado County Beekeepers Association
David Behlen (832) 230-5740
coloradocountybeekeepers@gmail.com
Meetings: 2nd Thursday of each month at 6:00 pm
316 Spring Street, Columbus

Comal County Beekeepers Association
Julie Morgan - (210) 475-2924
e.julie.morgan@gmail.com
Meetings: 1st Thursday of each month
Beefy's on the Green Restaurant, upstairs room
12910 USHwy 281N at 6:30 pm

Concho Valley Beekeepers Association
Rex Moody - (325) 650-6360
cvbeekeeper@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

Denton County Beekeepers Association
Gary Barber - (972) 768-5505
board@dentonbees.com
www.dentonbees.com
Meetings: 2nd Tuesday of each month at 6:30 pm
Please see calendar for location

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 Area Beekeepers Association
Jerry Lee - (917) 710-6072
elginbeekeepers@gmail.com
Meetings: 2nd Tuesday 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
Kay Purcella - (325) 330-0745
kaysyellowrose@hotmail.com
Meetings: 3rd Monday of each month, Texas Agrilife Research and Extension Center, 1229 N US Hwy 281, Stephenville at 7pm

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@fortbendbeekeepers.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
joebeees@gmail.com
Meetings: Third Thurs. of even number months (excl. Dec) at 6:30 pm
Gillespie County Ext. Off., 95 Frederick Rd., Fredericksburg

Harris County Beekeepers Association
Jeff McMullin - (713) 203-6348
jefferylmc@yahoo.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
Vista Brewing, 13551 FM 150, Austin, TX 78737 at 6:30pm

Heart of Texas Beekeepers Association
Gary Bowles (254) 214-4514
gm.bowles@yahoo.com
Meetings: 4th Tuesday of each month (except Dec.) at 7 pm
in Lecture Hall
MCC Emergency Services Education Center, 7601 Steinbeck Bend Road, Waco

Henderson County Beekeepers Association
Kathi Murphy-Boley (972) 467-5092
kdbmurphy@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
Robin Sliva - (254) 205-0534
rs.plumleeplace@gmail.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
Shelley Rice - (832) 545-7178
info@houstonbeekeepers.org
www.houstonbeekeepers.org
Meetings: 3rd Tuesday of each month at 7:30 pm
Bayland Community Center, 6400 Bisonnet 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
2099 W FM 917, Joshua

Lamar County Beekeepers Association
Randall Childres - (903) 652-5912
lamarcoba@gmail.com
Meetings: 1st Thursday of the month at 6:30 pm
Lamar County Fairgrounds, Bldg B, 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
Ryan Giesecke - (214) 577-9562
ryangiesecke@gmail.com
www.metrobeekeepers.net
Meetings: 2nd Monday of each month at 5:30 pm
Southside Preservation Hall, 1519 Lipscomb St., Fort Worth

Montgomery County Beekeepers Assn.
James Elam
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
Connor White - (903) 360-2253
connor.white.1969@gmail.com
netbacantontexas@outlook.com
Meetings: 2nd Monday of each month at 6:30 pm
Canton Fairgrounds, 24780 TX 64
Canton, TX 75103

Palo Duro Bee Club
Paige Nester - (806) 678-8048
nesterpaige@gmail.com
Meetings: 1st Thursday of each month
Creek House Honey Farm, 5015 4th Ave, Canyon

Pineywoods Beekeepers Association
Terry McFall - (409) 289-7387
tdmcfall@hotmail.com
Meetings: 2nd Thursday of each month at 7 pm
St. Cyprian Episcopal Church Hall
919 S. John Redditt Dr. (Loop 287), 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

Rusk County Beekeepers Association
John Stewart - (903) 842-4433
jes.stewart@gmail.com
Meetings: Last Thursday of each month at 6 pm
Church of the Nazarene, 906 W Main St, Henderson

San Marcos Area Bee Wranglers
Leslie Patterson - (830) 305-3493
smabeewranglers@gmail.com
Meetings: 2nd Wednesday of the month (June through February)
2nd and 4th Wednesdays (March through May) at 7 pm
Pecan Park Riverside RV Park, 50 Squirrel Run, San Marcos

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

Texarkana Beekeepers Association
Sarah Clinesmith - (903) 490-1080
texarkanabeekeepersassociation@gmail.com
Meetings: 3rd Monday of each month at 6pm
Texarkana Public Library, 600 W 3rd St Texarkana

Texas Hill Country Beekeepers Association
Linda Williams - (830) 688-0560
texashillcountrybeekeepers@gmail.com
facebook.com/TXHillCountryBKAssn/
Meetings: 4th Tuesday of odd months at 6:30 pm
Schreiner University, 2100 Memorial Blvd, Kerrville

Travis County Beekeepers Assn.
John Swan - (512) 677-7404
ontact@TCBeeks.org
www.TCBeeks.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

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.
Larry Fuchs - (936) 661-0633
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 Tuesday of each month at 7 pm (except December)
Georgetown Public Library, 402 W 8th St., Georgetown

Wise Texas Bee Club
Donny Johns - (817) 939-3249
info@wisetexasbeeclub.org
Meetings: First Thursday of the month at 6pm
Public Library, Bridgeport

Wood County Beekeepers Association
Bill Zimmer - (469) 222-3901
woodcountybeekeepers@gmail.com
Meetings: First Tuesday of every month at 7 pm
The Red Barn, 100 CR 4830, Winnsboro

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Picture: Tasty by Kim Townsend