

Williamson County Area Beekeepers Association

NEXT MEETING:
TUESDAY April 28th
7:00-9:00 Program
On-Line Meeting only

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Due to the ongoing COVID-19 pandemic, we are going to have our April member meeting virtually at 7 pm April 28th via "Zoom" meeting software.

This will allow up to 100 WCABA members to listen in and watch our Beekeeping 101 session as well as conducting a Q&A.

You do not need to sign up for an account to join the meeting - just a device and internet connection are required.

If you are planning to join from an iPhone or iPad, be sure to download this application first: <https://apps.apple.com/us/app/zoom-cloud-meetings/id546505307>

We look forward to seeing you Tuesday night @ 7PM!

Join Zoom Meeting

<https://us02web.zoom.us/j/82137832415?pwd=K3M-raU15UFIBVFNzME1tcWo0NVhwZz09>

Meeting ID: 821 3783 2415

Password: 965084

Dial by your location

+1 346 248 7799

Meeting ID: 821 3783 2415

Password: 965084

Find your local number: <https://us02web.zoom.us/u/kdIRF-hugC7>

Research Pearls

from Phil Ainslie, President

Research Pearls

Compiled by Phil Ainslie

Changes in a vibration-sensitive neuron may equip forager honeybees for waggle dance communication, according to research recently published in eNeuro.

Forager honeybees share information about the location and value of food sources by moving their body from side to side and beating their wings. The observing bees interpret the waggle dance through sensory organs that send the information to vibration-sensitive neurons, including DL-INT-

After developing from an egg, young adult honeybees emerge from their cell and begin learning their social position. The honeybees that become foragers learn the waggle dance, which may require further brain development. To explore this, Ajayrama Kumaraswamy and colleagues at Ludwig-Maximilians-Universität München, Fukuoka University, and University of Hyogo recorded the electrical activity of DL-INT-1 neurons in young adult and forager honeybees and then created computer simulations and three-dimensional models of the neurons.

In specific regions of DL-INT-1 neurons, the older bees had less dense branching compared to the younger bees. Additionally, the neurons in older bees demonstrated enhanced signaling and more precise connections to other brain regions. These findings suggest that important adaptations occur in the honeybee during the transition into the forager role, which allow them to effectively communicate via the waggle dance.

Story Source:

Materials provided by [Society for Neuroscience](#).

Using probiotics to protect honey bees against fatal disease

"Probiotics aren't just for humans," said Gregor Reid, PhD, Professor at Western's Schulich School of Medicine & Dentistry and Endowed Chair in Human Microbiome and Probiotics at Lawson. "Our idea was that if you could use beneficial microbes to stimulate the immune response or attack the pathogens that are infecting the hives, then maybe we can help save the bees."

The team's previous work in a fruit-fly model suggested that the wide-use of pesticides reduces bees' immunity and their ability to fight back against these harmful pathogens.

With that in mind, a group of researchers at Western and Lawson combined their expertise in probiotics and bee biology to supplement honey bee food with probiotics, in the form a BioPatty, in their experimental apiaries. The aim was to see what effect probiotics would have on honey bee health

During their experiment, the hives became inadvertently infected with American Foulbrood, a common hive disease produced by the bacteria *P. larvae*, which would typically cause the bees to die.

"Bee colonies are really interesting little microcosms of biology. There are lots of individuals bees, but they are all genetically related and they are living in a close confined space," said Graham Thompson, PhD, Associate Professor in the Faculty of Science at Western who studies the biology and social

behaviour of bees. "They are all very susceptible to contagious disease and they are demographically disposed to outbreaks."

What they found was that in the bee hives treated with probiotics, the pathogen load was reduced by 99 per cent, and the survival-rate of the bees increased significantly. When they examined the bees in the lab, they also found that there was increased immunity against the bacteria that causes American Foulbrood in the bees treated with the probiotics.

A little prairie can rescue honey bees from famine on the farm

November 25, 2019

University of Illinois at Urbana-Champaign, News Bureau

Summary:

Scientists placed honey bee hives next to soybean fields in Iowa and tracked how the bees fared over the growing season. To their surprise, the bees did well for much of the summer. The colonies thrived and gained weight. But in August, the trend reversed. By mid-October, most of the honey was gone and the overwintering brood was malnourished, the team discovered. Placing the hives near restored prairies late in the season rescued them

Bacteria engineered to protect bees from pests and pathogens

University of Texas at Austin

Summary:

Scientists report that they have developed a new strategy to protect honey bees from a deadly trend known as colony collapse: genetically engineered strains of bacteria. This is the first time anyone has improved the health of bees by genetically engineering their microbiome.

The engineered bacteria live in the guts of honey bees and act as biological factories, pumping out medicines protecting the bees against two major causes of colony collapse: Varroa mites and deformed wing virus. The researchers believe their method could one day scale up for agricultural use because the engineered bacteria are easy to grow, inoculating the bees is straightforward and the engineered bacteria are unlikely to spread beyond bees.

While the experiments occurred under strict biocontainment protocols used with genetic engineering, Moran said, even absent such protocols, the risk of the engineered bacteria escaping into the wild and infecting other insects -- and thereby conferring some anti-pest or anti-pathogen superpowers -- is very low. The type of bacteria used are highly specialized to live in the bee gut, can't survive for long outside of it and are protective for a virus that strikes only bees. Still, further research will be needed to determine the effectiveness and safety of the treatments in agricultural settings.

Another benefit of the approach is for researchers to use it as a tool in studying bee genetics. The engineered bacteria can knock down specific bee genes, enabling insights into the workings of the bee genome, and possibly enabling new breeding strategies to produce more robust bee colonies.

Bees recognize that six is more than four

A new study at the University of Cologne proves that insects can perform basic numerical cognition tasks. Their neuronal network can also be used to perform successful machine learning.

'Experiments showed that insects such as honeybees can actually "count" up to a certain number of objects. For example, bees were able to compare sets of objects and evaluate whether they were the same size or whether one set was larger than the other', said Hannes Rapp, explaining the underlying question of what is known as numerical cognition. For example, the bee recognized that six diamonds are more than four circles.

April Newsletter

from S S Brantley, Life Member Texas Beekeepers Association

Since everyone is staying at home these days, the bees should be getting a lot of attention. In years past, May was considered a “swarming month” but what I have seen so far indicates any month could be a swarming month. In my area around Jefferson, Texas, Chinese Tallow usually begins to bloom by the third week of May. When the Tallow flow ends in June, the spring honey flows is essentially over. Bees will continue to dry and cap honey with most hives being ready to extract by early July.

Days will begin to be warmer and the longer hours in the day will certainly cause the queens to lay more eggs. In case you have not started new colonies, this would be an ideal month to add to your colony count. Drones are young, plentiful, and just waiting for the new queens to emerge. A plentiful supply of drones in the drone congregation area will ensure the new queen will be able to mate as much as necessary. Do not wait until late June to start new colonies and plan on them raising their own queens. By then, the hive may already be in the process of kicking out the drones as the nectar flow ends.

Watch your hives and begin to monitor for mites. In working with my bees, I see very few mites in the broken drone comb between the double brood boxes. However, this could lead to a false sense of security so do a sample for mites from the center of the hive where all of the nurse bees should be hard at work.

Nectar should begin to be stored and bees will begin to cap some of the center frames in the super. If there are several frames in the super, I suggest you consider extracting those for your use. Returning the wet frames to the super causes the bees to become excited while cleaning up and could encourage them to work harder to refill the frames.

When you are able to remove complete supers for extracting, try to make a practice of replacing the extracted supers late in the evening. If there is nectar flow in progress, most of the bees are not inclined to rob the neighboring hive. However, sometimes bees just find it easier to take it from their neighbor rather than foraging for it!

Be sure to check the supers weekly after the bees begin to work in them. Do not wait for that super to be capped before you add another super to the hive. Bees store nectar, as a general rule, beginning in the center frames of a super. The outside frames are the last to be filled. By carefully watching, you can move the frames from the center to the outside positions to get the bees to completely fill all of the frames.

If you do not have any drawn comb for your supers, try this trick. Hive a swarm in a medium super box. Place a queen excluder over the swarm. Then add a couple more supers above the queen excluder. This confines the queen and the drones to the lower super and allows the major part of the swarm to pass the excluder and draw comb in the top boxes. When the comb is ready for use in another hive, remove the queen excluder and place a deep box of foundation on top of the lower super. Since the bees tend to move up, you should find the foundation in the deep brood box drawn very quickly. When most of the deep's foundation is drawn, place the brood box on a bottom board and set the lower super on top of it. If you plan on extracting honey from the super this year, be sure to add a queen excluder between the boxes. Or, if do not plan to extract, you could leave off the queen excluder and let the bees use the honey for winter stores.



Chinese Tallow

WCABA Delivery of Bees and Queens go on in Spite of Covid-19

I have always believed that each year in beekeeping is different from the year before, but I have always remained hopeful that it would be better; but oh, what a difference a year can make. I am speaking of the near fiasco that took place in April of 2019 when the team driving to Louisiana to pick up the clubs nuc order took almost 20 hours round trip, and arrived so late that many of the members were already waiting to pick up their bees and they had to wait yet even longer.

In all fairness, it wasn't their fault, but a weird set of circumstances beyond their control. Is it starting to sound familiar?

I report that the April 2020 trip could not have gone smoother. The volunteer drive team this year was made up of John Hibbard, Phil Ainslie, and Steve Hoskins. They left mid-morning on Friday, stopped in Rockdale for some Small Town BBQ at Brett's Backyard. They were off to a great start (with full stomachs) which propelled them to Jennings, Louisiana in record time, arriving well before dark at the Merrimack Valley Apiaries production yard. Loading went smoothly and they were back on the road before 9PM. With all their paperwork in order they had no problem crossing the state line back into Texas in the wee hours of the morning. They arrived back at the Bost Farm around 3AM (a little over 16 hours).

The team for volunteers ready to receive the nucs on arrival went to work to screen the nuc box entrance to secure the bees inside till they reached their final destination (bee yard). The drive team guys worked to unload the cargo and assisted in screening with help from Dodie & Kevin Stillman, and Jimmie Oakley. As daylight approached the Bost Farmyard filled up with hundreds of wooden nuc boxes ready for pickup.

There was a concern expressed by a club member, Paul Swann, over a possible repeat of last year's logjam during delivery of the nucs and the large crowd that developed considering the current outbreak of Covid-19. With that in mind a logistical plan was devised that would facilitate the necessary handling of paperwork at check-in and manage the flow of traffic in and around the Bost Honey House and expedite the pickup and loading of the



Steve Hoskins, John Hibbard, Phil Ainslie head to Louisiana



Picking up the load at Merrimack Valley Apiaries



Phil Ainslie & John Hibbard screen as Kevin and Dodie Stillman unload nucs

nucs in the yard, all done with social distancing and wearing appropriate mask. Signs were put up to direct members in their cars/trucks to the “check-in point” where a runner would take the Pickup Voucher to the check-in coordinator who would verify and issue a “pickup tic” that the driver could take to the yard where the “teamster” would load the appropriate number in the member’s vehicle without them having to leave the safety of their car. Believe it or not, thanks to the wonderful volunteers and cooperation of the members, it all went as planned.

Customer pickup was scheduled for 8AM, but with beekeepers that means “I’ll be there at 7AM.”

So, the circus began early and continued through the morning with the majority of nucs going out before noon.

Much thanks go to the Covid-19 conscience team that made things go so well. Shannon Montez and Barbi Rose took care of accounting (pickup vouchers and pickup tics), Linda Russell and Dodie Stillman were runners, and Gillian Mattison and son James worked



FOLLOW THE ARROWS!



7:05AM: First customer of the day, but can't tell who because they are wearing "mask"

traffic control keeping vehicles in line and later as teamsters loading nucs for members, and finally Jim Ray who worked everywhere, but mainly as a teamster till he had to leave to go to work.

We repeated the same process the next weekend when the club took delivery of 115



Barbi Rose and Shannon Montez keep track of distribution

caged queens for B Weaver Apiaries of Navasota, Texas for distribution to club members at the Bost Farm.

Another successful procurement program for the Williamson County Area Beekeepers Association.

As always, I stand ready as the order coordinator to field any of your questions or complaints concerning the program, including replacements or refunds. Thank you one more time to all those who were responsible for pickup, or facilitating distribution, or just lent a helping hand (Kay Oakley with RR Donuts) ...COUNDN'T have done it without you.

Regards, Jimmie Oakley – Order Coordinator, cell:512/507-3009 text or talk



Linda Russell and Dodie Stillman serve as Runners

More Pictures from WCABA Bee Distribution



Gillian & James Mattison as teamsters load nucs for the Members



Jim Ray loads 3 nucs for Ann Bierschenk

*Thanks
All !*



Linda Russell, Gillian Mattison, Barbie Rose, Shannon Montez (Masked Banditos?)



2020 Scholarship Recipients Take First Step into Beekeeping

The 2020 Scholarship Recipients took their first big step in beekeeping by installing their 5-frame nuc into the permanent 8-frame hive body that will form the basis of their new beehive. All four youngsters performed the task at the Bost Farm on Sunday afternoon April 19th. Prior to this they had met individually at the Bost warehouse to assemble their scholarship beekeeping wood ware and receive their protective gear. After some paint was applied to their boxes all was brought back to the Bost Farm and set up to receive the new occupants.

Aydon Guevara (16), Emily Griffis (13), Garrett Rogers (13) and Sterling Kinghorn (12), all lite their smokers, donned their protective gear, and set about transferring the bees out of the 5-framed shipping box and into the scholarship issued 8-frame equipment. All hives were fed a gallon of 1 ½ to 1 sugar syrup to get them started.

The hives were later moved to the Georgetown Heritage Garden where the recipients performed their first hive check as they worked on reading the hive frames and practiced handling the frames live with bees. The hives were again fed a gallon of sugar syrup to spur comb building activity.

Follow and encourage these new beekeepers as they go down the familiar path that we all have taken in our beekeeping adventure. We hope to see them all at a future meeting of WCABA.

Jimmie Oakley – Scholarship Chair



Sterling, Emily, Garrett and Ayden with their smokers



Emily's bees are installed and a gallon of syrup to boot



Randy Oakley, program mentor, shows Garrett how to read a frame for brood, pollen and honey stores



Aydon Guevara works with a full frame of bees in his first inspection



SELLING HONEY in Texas

Rebecca Dittmar

Extension Program Specialist for Food Protection Management, The Texas A&M University System

Small honey producers may now sell their honey in Texas, under certain conditions, without having to obtain a state license as a food manufacturer or comply with all of the state regulations for food manufacturers.

Senate Bill 1766, which went into effect September 1, 2015, allows those qualifying as “small honey production operations” to sell honey directly to consumers in Texas. Small honey producers are defined as those that:

- Produce less than 2,500 pounds of honey each year
- Sell the honey themselves or allow it to be sold by an immediate family member
- Sell only honey that is produced from a hive located in Texas and owned and managed by that beekeeper
- Sell only honey that is pure, raw, and not blended with any other product or otherwise adulterated

- Deliver the honey or honeycomb to the consumer or sell it directly to the consumer at the beekeeper’s home, another designated location, a farmer’s market, a farm stand, or a municipal, county, or nonprofit fair, festival, or event
- Include on the label the name of the product, a net weight statement, the beekeeper’s name and address, and the statement: *Bottled or packaged in a facility not inspected by the Texas Department of State Health Services.*

This exemption for small honey producers does not extend to wholesale or Internet sales. The act also stipulates that local governmental authorities, including health departments, may not regulate the production of honey or honeycombs by small honey producers.

Those who do not meet the criteria as small honey producers must be licensed as food manufacturers to sell honey retail, wholesale, or over the Internet.



To sell honey, beekeepers must comply with federal, state, and sometimes local requirements.

Regulations for all Texas honey producers

Beekeepers wanting to sell honey from Texas wholesale or over the Internet, in addition to retail, must comply with the requirements of up to four entities:

- U.S. Food and Drug Administration (FDA)
- Texas Department of State Health Services
- Local health department, if applicable
- Homeowner association, if applicable

FDA

Federal regulations require some honey producers to register their facilities, comply with current U.S. good manufacturing practices, and include nutritional labeling on their products.

Registration as a FDA Food Facility is needed only for the producers selling honey wholesale and engaging in interstate commerce. It is not required for those selling honey directly to consumers who will not reuse the honey in any other products to be sold.

There is no fee to register, but filing is required by law. The purpose is for the FDA to be able to contact businesses regarding food alerts. More information and registration application

forms are posted on the FDA website at <http://www.fda.gov/Food/GuidanceRegulation/FoodFacilityRegistration/default.htm>.

Federal **good manufacturing practices** (GMPs) cover training, audits, documentation, and evaluation as well as safety for buildings, equipment, production, and processes. Guidelines on those practices are posted at <http://www.fda.gov/Food/GuidanceRegulation/CGMP/ucm110877.htm>.

Foods must bear FDA **nutrition labeling**, unless it is produced by businesses employing fewer than 10 full-time equivalent employees and selling fewer than 10,000 units of that product in the United States in the previous 12 months. Other exemptions for nutritional labeling are in 21 Code of Federal Regulations 101.9(j).

The FDA *Food Labeling Guide* contains general information on food labeling regulations: <http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/LabelingNutrition/ucm2006828.htm>.

A voluntary but recommended label cautions against feeding honey to infants under 1 year old. The statement commonly used is “Do not feed honey to infants under 1 year of age.” The warning is recommended because some children under age 1 could contract infant botulism after eating honey.

Texas Department of State Health Services

Unless exempted as a small honey producer, a business wanting to produce and sell honey in Texas must obtain a food-manufacturing license, meet state labeling requirements, and follow good manufacturing practices (GMPs) as specified by the state.

A **Texas food-manufacturing license** enables producers to sell and distribute honey via retail, wholesale, and Internet venues as long as they label it with the manufacturer’s name.

The license application form is posted under “Applications and Forms” on the Texas Depart-

ment of State Health Services website at www.dshs.state.tx.us/foods.

If you have questions about filling out the application, call 512.834.6626. The license is renewable in every 2 years.

Labeling is required for all bottled honey by Chapter 131 of the Texas Agriculture Code: <http://www.statutes.legis.state.tx.us/Docs/AG/htm/AG.131.htm>.

GMPs are detailed in sections §§229.210–§§229.222 of the Texas Administrative Code (TAC). For example, TAC 229.184(3) addresses living areas:

No manufacturing or holding of foods for distribution shall be conducted in any room used as living or sleeping quarters. All food manufacturing and storage shall be separated from any living or sleeping quarters by complete partitioning.

However, beekeepers may extract and/or bottle honey on their property if they meet the following conditions:

- The room used is completely separate or completely partitioned from living, eating, or sleeping quarters.
- The room used has an exterior entrance.
- The room used meets all applicable requirements of the *Current Good Man-*

ufacturing Practice and Good Warehousing Practice in Manufacturing, Packing, or Holding Human Food (25 TAC §§229.210–§§229.222). Some of the requirements:

- Floors, walls and ceilings that are smooth, non-absorbent and easily cleanable
- Ware-washing facilities (typically a two- or three-compartment sink) with hot and cold running water
- A separate hand-washing sink, with soap, paper towels, and hot and cold running water.
- Adequate grey water disposal and access to a restroom (may be the home restroom if it is accessible)
- Tight-fitting closures on windows and doors
- The business maintains the appropriate license from the Texas Department of State Health Services.

These regulations, posted at <https://www.dshs.state.tx.us/foods/laws-rules.aspx>, govern manufacturing and storage facilities for manufactured food in Texas. The page also links to the basic labeling requirements.

For more information on Texas regulations, visit the website or contact Policy Standards and Quality Assurance–Foods at 1100 W. 49th St, Mail Code 1987, P.O. Box 149347,

Austin, Texas 78756; phone: 512.834.6670; or fax: 512.834.6681.

Local health departments and homeowner regulations

Beekeepers should also check with the local health department, which also may issue a permit or license for this type of operation. This does not apply to small honey-production operations—only to those wanting to obtain a food manufacturer’s license.

Also, some homeowner associations prohibit food manufacturing in the neighborhood.



Labeling laws apply to honey offered for sale.

Selling Honey in Texas

Frequently Asked Questions

1. **If I am properly licensed as a food manufacturer, and my facility (the honey house) is compliant, can I bottle my honey, or honey that I buy from other beekeepers or honey suppliers, and sell it anywhere—including retail, wholesale, and on the Internet?**

Yes. You may sell honey anywhere if you hold a manufactured foods license.

2. **Would I need to get a separate manufactured foods license if I used a licensed facility to bottle my own honey (or buy honey in bulk) and to sell it retail, wholesale, and on the Internet under my business name?**

Yes, you would be required to obtain and hold a current manufactured foods license. The finished product would need to be stored either at that facility or at your business address.

If the business address is at your home, it would need to have a separate storage facility partitioned off or separate from the living quarters and not used to store anything else that may contaminate or adulterate the product, such as lawn mowers, gas cans, and fertilizer.

3. **If I use another business's facility to bottle my own or purchased honey, what address do I put on the label—mine, or that facility's business address?**

Because the license is generally for the address on the label, you should use your own business address. However, you could use the other business's address as long as the owner has no problem with it.

The license application has a place to put the physical location, which is where the honey is

extracted and bottled, and a separate place to put the firm's business address.

4. **What would a coop using my facility need to do about licensing?**

It depends. The coop could obtain a license itself. But if individual members wanted to list their own addresses on the label, each business address on the label would be required to hold a manufactured foods license.

5. **If I want to sell honey that was bottled in another business's facility, what would I need to show a retail store, farmers market, or health department inspector to prove that the facility is in compliance?**

That facility will demonstrate compliance or lack thereof to the health department when it is inspected. For retail stores and/or farmer's markets, you could make a copy of the license and possibly the latest inspection letter to show that the required license has been obtained and that the facility is in compliance.



Only pure honey qualifies for exemptions for "small honey producers."

6. Am I required to keep any kind of records of my use of the other business's facility?

No, it is not required but probably advisable.

7. If a problem arose related to the honey that I processed at the other business's facility, who would the state contact to resolve the issue? Me, the other business, or both?

It probably depends on the nature of the problem. However, the person/company on the product label is generally considered responsible for the purity of the product, so the state would probably contact you.

8. Do I need a license to sell "capped" frames of honey?

No. Beekeepers who sell capped frames are not required to have a license. But those who bottle that honey and put their business name on the label must hold a manufactured foods license.

If a coop has only the coop name on the label, and the individual participants just bring in capped frames and share the profits, only the coop would need to obtain a manufactured foods license.



Acknowledgment

Some information in this publication was adapted from *Selling Honey in Texas* by the Texas Department of State Health Services.

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