VARROA AND BEE VIRUSES

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As autumn rapidly approaches, I hope your summer was successful. I’ve heard mixed reports about honey crops nationwide. Some companies produced average or slightly below-average harvests. I think my crop was about average, but many in my area, the northeast, were plagued by drought. I am hearing the price of our crop is climbing slightly, which might just be the best news. Many commercial beekeepers I’ve talked with claim they are getting fair prices for their wholesale honey.

The better prices lead me again to ask for donations to help us pay for legal fees involved with this fair trade lawsuit. It’s time for all beekeepers to recognize how the national organizations help and protect all beekeepers. This rise in wholesale prices will undoubtedly trickle all the way down to hobbyist beekeepers. This is why I got involved with the ABF.

We are always promoting the interests of all levels of beekeepers. Please go to ABFnet.org to donate to the honey defense fund. It’s that important.

I’ve always advised new beekeepers to get involved. Join a local club to find get a mentor. Join a state organization to become informed about laws and about what your politicians are doing for pollinator health. Then take the greater step and join the American Beekeeping Federation to help ensure your voice is heard when the Federal government considers programs from which beekeepers can benefit. That’s what we do. The ABF works in Washington to ensure beekeepers get the representation we deserve as an industry.

I urge all beekeepers to contact your local Farm service agency or FSA office. There’s one in every county. Make an appointment and discuss possible federal programs that are available to beekeepers. The USDA has worked to include sidelinersized operations in benefit programs. The pollinator protection plan is comprehensive and intended to help in times of drought, rain, or even wildfires. So please look into these programs.

Thank you for reading my message and feel free to reach out the ABF if we can help.

Sincerely,

Dan Winter
ABF President
American Beekeeping Federation
Dear Friends,

As I write this, yesterday marked 21 years since the attacks of September 11. Our local paper failed to mention this very sad day, though all over the valley gatherings were held to remember and recommit to not let it happen again. I hope you considered the issue and realized we have voting-age youth who were not around when this tragedy occurred. We all remember where we were on that fateful day. Please take a moment to share with your young friends what happened and though evil is in the world, we don’t have to let it grow unchecked.

September marks another important day. Project Apis M (PAM) has awarded over 10 million dollars in funding for practical research in beekeeping. What a milestone of positive achievement! Many people have expended time, money, and energy to see this day materialize. If you have contributed to this worthy cause, thank you. It’s amazing what can be accomplished over a few beers/sodas and an unselfish idea. ABF has been a strong supporter of this coalition since its inception.

It seems each of us needs a new piece of equipment, it’s time to retire the worn-out truck, and the boss needs to carpet a room or replace the tattered sofa. Way too many needs or wants and too little cash. My wife Jeanna bumped her head one day, and when she awakened she had the mistaken idea that I had money, and she vowed to not leave until she finds it. Forty-one years together, and she still hasn’t lost hope.

We the ABF leadership and board are really advocating for beekeepers. The Jacksonville convention will be both fun and informative. Many good things are happening. Please join us this January, sign up now as registration is open. Buy your significant other a nice gift and then donate generously to PAM, our anti-dumping effort, and the ABF Foundation. Good things will come from your efforts, and you won’t miss the money.

Best regards,

Jay Miller
Vice President

As an ABF member, you too have an important role to play in ensuring that beekeeping and beekeepers remain top of mind in the American legislature!
**Dogs and Cats before the Election**

As I write this legislative update for you, the House and Senate have returned to Washington, DC, from their August recess and will try to address several legislative activities before recessing again to return to their states and district to campaign for the mid-terms.

In the next two and a half weeks, Congress will in all likely pass a Continuing Resolution (CR) that will be a short gap measure to fund the federal government till after the mid-term elections. It is anticipated that the CR will fund federal programs at current levels will run through some time in mid-December. Following the elections, they will return to Washington and decide whether they will take up this year’s appropriations bill in an Omnibus Appropriations bill or continue the CR into next year. For our industry’s issues and bee/pollinator programs and research funding, an Omnibus Appropriations measure is much more favorable than continuing the CR into the next Congress.

As with CRs, there are efforts by the Administration and members of Congress to include additional funding in legislation. The Administration would like Congress to include additional funding for Ukraine ($13.7 billion), Covid ($22.5 billion), Disaster Funding ($6.5 billion), and Monkey Pox ($4.5 billion). There will be a lot of debate between the House and Senate leadership teams concerning the inclusion of the Administration’s additional funding requests. In addition, a decision needs to be made on what to do regarding energy permitting being pushed by Senator Manchin (D-WVA) which faces opposition in the House. At the time of this writing, a resolution between all parties looks promising. No one wants to shut down the government before the mid-term elections.

The House and Senate Agriculture committees are continuing to hold hearings to gather stakeholder input before they begin the task of drafting language for the next farm bill. Both ABF President Dan Winter, a commercial beekeeper from New York, and past ABF President Joan Gunter, a commercial beekeeper from North Dakota, visited Washington in late July just prior to Congress leaving on their August recess. During a very busy week, they held in-person and virtual meetings with members of the House and Senate and their staff in addition to extensive meetings with the professional staff of the House and Senate Agriculture Committees. This process began the dialogue necessary as we proceed with the next farm bill and the many interests facing honey producers and our industry.

In addition to their meetings on the Hill, Dan and Joan held productive meetings at USDA with senior policy officials on the many regulatory and research issues that are of interest to ABF.

The next few weeks will be focused on keeping the government funded. After the mid-terms and what changes they may bring to the leadership of the House and Senate, the focus will be on completing the actions of the Congress and preparing for the new Congress that will arrive in town in January.

I hope everyone is making lots of honey this summer and you and your bees are not suffering from the effects of the severe drought experienced by many.
Washington Is Open Again, but Not Like It Used to Be
By Joan Gunter

Recently, American Beekeeping Federation President Dan Winter and I traveled to Washington, DC for several days of comprehensive meetings with members of the U.S. House and Senate, congressional staff, and officials at the U.S. Department of Agriculture. The purpose of our visit was to report on the current condition of our industry and begin a dialogue on the upcoming farm bill with key leaders and decision-makers who will play a role in shaping the legislation over the next year and a half. For some time “official” Washington and the Capitol have been closed to in-person meetings due to COVID. While Capitol Hill is not yet back to the openness we have experienced in the past, the current protocol did allow us to make our first in-person visit to Washington in some time. The security protocol is what can best be described as “hybrid” with some members and offices electing to meet with us in person while others, especially those with a recent positive test in their offices, either canceled our meeting or scheduled one remotely. Given the fluidity of the situation, Dan and I did the best we could to facilitate meaningful discussions and believe the trip was well worth the effort.

I arrived in Washington late Monday evening on the third week in July although I almost didn’t make it out of North Dakota, but as they say, that’s another story. Dan had driven down from New York earlier in the day. The town was busy with Congress trying to wrap things up before they left town for their August recess. Early Tuesday morning, we met Fran Boyd, our Washington Representative, at his office just off Capitol Hill to prepare for our first meeting of the day. Our first meeting of the day was with Congressman Armstrong of North Dakota. He met with us in his Congressional office with his Legislative Director and agriculture Legislative Assistant. Being the sole representative from the state of North Dakota, the congressman was very familiar with our industry as was his staff. Congressman Armstrong assured us he would do all he could to assist us with our concerns and speak to other members about the importance of bees to U.S. agriculture.

For our next meeting, we met with the minority staff of the House Agriculture Committee. We spent considerable time talking in detail about conservation programs, research, trade, honeybee health, pesticide use, labor, transportation, and many other issues and policies that will be included in the next farm bill. Currently, the House Agriculture Committee is holding “listening sessions” around the country to hear directly from stakeholders, and I urge you to attend if one is held near you to speak about the importance of our industry and the important part we play in the success of American agriculture. Following this meeting, we moved quickly to our meeting with the agriculture legislative staff of Congressman Baird from Indiana who is a member of the House Agriculture Committee. Following a very productive discussion on the critical importance of honeybees and pollinators to all U.S. Agriculture, we returned to the offices of Meyers & Associates/Hance Scarborough to participate in a Zoom meeting with several majority professional staff members of the House Agriculture Committee. The committee staff met with us for quite some time to discuss the many issues and priorities we have concerning the next farm bill. As I reported earlier, these visits are the beginning of an ongoing dialogue we will have with the staff of the committees charged with constructing the next farm bill which sets the legislative policy for all federal farm programs and nutrition programs for five years. They expressed an understanding of the importance of bees to agriculture and look forward to working closely with us going forward.

Our next meeting was to be an in-person meeting with Congresswoman Pingree from Maine, a member of the House Appropriations Committee and supporter of honeybees and pollinators. Unfortunately, she had recently tested positive for COVID-19, so she was understandably unable to meet, but we met with her agriculture and appropriations staff instead to thank them for the Congresswoman’s work on the House Appropriations Committee, particularly with regard to the USDA bee lab research funding and Chinese tallow.

Our final meetings of the day were across Capitol Hill on the Senate side, first with the agricultural legislative staff of Senator Braun from Indiana, a member of the Senate Agriculture Committee, followed by meetings with the staff of Senator Smith from Minnesota who is also a member of the Senate Agriculture Committee. These two meetings were primarily focused on the upcoming farm bill. At the conclusion of day one, we were ready to regroup at the office and looked forward to day two!

We began day two with a meeting in the office of Senator Cramer of North Dakota with his agriculture staff. Senator Cramer has always been a strong supporter of our industry. We talked about several of the issues currently facing the industry but spent most of our time talking about industry needs for the future as far as research funding and transportation concerns. Following the meeting with Senator Cramer’s staff, we met with Senator Hyde-Smith from Mississippi, a member of the Senate Agriculture Committee. Unfortunately, the senator was attending a Congressional hearing, so we met with her two agriculture Legislative Assistants. I personally was looking forward to this meeting since we keep our bees in Mississippi for half the year and because of her long support for the agriculture industry as the former Secretary of Agriculture in Mississippi prior to being elected to the Senate. As we left her office and turned the corner, the Senator was walking down the hall to her office and gladly stopped in the hall to meet with Dan and me and talked about the work that is before the committee and her effort on the Chinese tallow issue which is important to her Mississippi beekeepers. She told us she wanted to work closely with us regarding what the industry would like to see included in the final farm bill and reassured us that she looks forward to meeting with us during our next visit to Washington.
Pushing on to our next meeting, we gathered with the minority professional staff of the Senate Agriculture Committee for a discussion primarily on farm bill priorities but also the latest update regarding the honey trade case. Next, we traveled through the Senate buildings for a meeting with the Legislative Director for Senator Tester from Montana. Senator Tester was one of the principles behind the language that was included in the recently passed Infrastructure Investment and Jobs Act that included hours-of-service language for livestock and beekeepers and is also a senior member of the Senate Appropriations Committee.

We then traveled back to the office for a Zoom call with the staff of the Majority Leader of the Senate. Senator Schumer represents New York, so Dan took the time to bring them up to speed on what is happening concerning the industry and bee research in the Empire state. He also explained to them the logistics of his commercial beekeeping operation and how he spends the winter months with his bees in Florida before moving them North. They were particularly interested in the topic of conservation programs for bees and other pollinators as well as the current pesticide issues before the Environmental Protection Agency. Following the call, it was back to the Hill for a meeting with the agriculture Legislative Assistant for Senator Rounds from South Dakota. The Senator, who is a supporter of the bee/honey industry, assured us he would do all he could to support our priorities and continue to work closely with us during upcoming discussions. After warming up with one South Dakota office, we were ready for another as we then met with the agriculture Legislative Assistant for Senator John Thune from South Dakota. Senator Thune is also a member of the minority leadership in the Senate and has been a strong supporter of the honey industry since his days in the House.

Our final meeting of the day was lengthy and quite thorough, with six professional staff members of the Senate Agriculture Committee. It was arguably one of the best meetings of the week where we were assured by staff that our meeting would be the first of several on the needs of the industry. We discussed and were questioned on all areas and facets of the farm bill and its effect on bees, honey, and pollinators. The meeting was highly productive and when combined with the other 3 meetings we had with both minority and majority professional staff of the House Agriculture Committee and the minority professional staff of the Senate Agriculture Committee, a strong foundation was laid for the continuation of a productive dialogue as the next farm bill is assembled.

Ending the day on a high note, we felt very confident that our industry’s message was being heard and understood as we looked forward to the next morning.

We began Thursday morning on a Zoom meeting with Dr. Steve Kappes, the Associate Administrator for the Agricultural Research Service (ARS) at USDA, and his team. We talked at length about what was happening at each of the ARS bee labs around the country and discussed federal research needs and goals. We discussed research funding for bees and pollinators that was included in the recently passed House Agriculture Fiscal Year 2023 Appropriations bill and told them we were working hard to increase the research funding levels for bee research in the Senate funding bill.

Following our discussion with the ARS folks, we made our way back up to Capitol Hill for a meeting with the agricultural staff for Senator Schatz from Hawaii. This meeting was requested by the Senator’s office to learn more about the bee industry and its importance to both Hawaii and the entire U.S. bee industry.
We talked to the Congressman’s staff about the importance of the queen industry in Hawaii and spent considerable time talking with them about the importance of queen bee transport along with the particular and unique concerns Hawaii has with pest invasion. They explained how all exports from Hawaii to the mainland are thoroughly inspected by USDA/APHIS but how that is not the case for imports. We promised to stay in close touch with their office on the unique issues facing the bee and queen industry in Hawaii.

Our next meeting was with Congressman Johnson from South Dakota, a member of the House Agriculture Committee. He is an active supporter of our industry and was very knowledgeable on the issues facing beekeepers. He pledged to work closely with us as his committee worked to draft the next farm bill. One issue that he had not heard of and was quite concerned about was manufactured or “fake” honey and possible labeling claims that would result. He told us he would work with us to address this concern legislatively if necessary.

Our next meeting was with the staff of Congressman Panetta from California. We were originally scheduled to meet directly with the Congressman who is a member of the House Agriculture Committee and a longtime supporter of bees and other pollinators, but he was on the House floor at the time of our meeting working to pass an amendment to the Agriculture Appropriations bill that would provide funding to states to establish pollinator-friendly plantings along highways in the U.S. We met with his staff as the amendment was agreed to.

The rest of Thursday afternoon was spent back at USDA. The first meeting we had was with Scott Marlow, the Deputy Administrator for Farm Programs, Farm Services Administration (FSA), and Elizabeth “Lizzy” Hill who is the Honeybee and Pollinator Research Coordinator at USDA. Lizzy is the point person for all things bees and pollinator related at USDA. She was unable to join in person after falling ill but thankfully was able to join virtually.

In addition to himself, Mr. Marlow brought with him to the meeting a room full of his program leaders. The discussion primarily focused on the importance of Emergency Assistance for Livestock, Honey Bees, and Farm-raised Fish (ELAP) to our industry and how can we make it work better for all parties. There was open and productive discussion around the table and the USDA officials were open to working with us to make ELAP work as best it could. They acknowledged the program’s importance to our industry being that it is the only program we currently have to assist our producers with disasters. We also discussed the importance of having a seed mix available to CRP enrollees that is both beneficial to pollinators and affordable. They said they would continue to talk to the Soil Conservation Service about the effectiveness and affordability of seed mixes.

Our final meeting of the day was with Deputy Undersecretary for Marketing and Regulatory Programs Mae Wu. There are several agencies at USDA that Deputy Undersecretary Wu is charged with leading but two that are very important to us are the Animal Plant Health Inspection Service (APHIS) and the Agricultural Marketing Service (AMS). Accompanying the Deputy Undersecretary at the meeting were several program officials from APHIS and AMS. We spent quite a bit of time talking about the current situation with Chinese Tallow, the status of Killer Hornets, import/export inspection, labeling, and oversight of the National Honey Board. It was a productive meeting with open dialogue and we believe progress on a number of issues was made.

As the day drew to a close, so did our visit to Washington. I would be heading home to North Dakota in the morning, and Dan would be driving back to New York. Once we were home, we scheduled two meetings remotely that were canceled while we were in Washington. Dan and I participated in calls with the senior legislative staff of Senator Gillibrand from New York, a member of the Senate Agriculture Committee, and Congresswoman Plaskett representing the U.S. Virgin Islands, who is the Chairman of the House Agriculture Subcommittee on Horticulture, Biotechnology, and Research.

We believe the trip accomplished what we hoped by beginning dialogue with policymakers on both Capitol Hill and at USDA on the issues immediately before our industry and how solutions can be enacted through meaningful action including the upcoming farm bill. Now that the dialogue has begun, it is important that we continue as a strong united voice for our industry.
Away from the brood nest, they don’t worry as much about keeping the temperature precise around honey stores. If the temperature reaches in the high 80s and high humidity, you will see bees starting to beard outside in the afternoon trying to reduce the heat and humidity in the hive. They are doing a few different things at the same time; changing airflow by drawing cool moist air into the hive and forcing hotter air out like a chimney flue. Therefore, it’s important not to create more holes (vents) in the hive causing more work for the bees. Early in the morning, normally during the first flights the foragers gather water, bring it back to the hive, storing it in empty cells in the brood nest, by fanning it causing evaporation, cooling, and helping maintain the correct temperature in the brood nest!

In colder times, you need to make sure to have left plenty of honey on the hive. Not only does it insulate, but it’s their energy to keep the hive warm during those cold days and nights! If you have just a few days of cold weather, as long as they have feed (honey) they should do fine.

Honey Bees have been keeping themselves warm and cool forever, just in the last 100 years have humans tried to help them by adding fans to help cool, wrapping insulation around them when it’s cold, and changing how they build the nest to give us better access to the frames. Mother Nature does a great job of doing her job! Yes! We need Honey Bees to pollinate $16 Billion in crops each year at times when most honey bees wouldn’t be ready. Yes, we need to help!

Q. We are a small beekeeper (20-35 hives) out of the midwest; we are trying to make some honey for sale and some for ourselves! We have a two-part question.
1. In the summer we have temperatures in excess of 100 degrees in the shade. We’ve thought of adding solar fans or venting the hives and even placing ice on top of them. All of these solutions cost money and time.
2. What should we do in the winter when the temperature drops below 32F for two or three days? We’ve tried to insulate the hives, but it gets back into the 60s in the afternoons.

Do you have any other ideas? We started beekeeping as a hobby, but now it has become a real job!

A. Welcome to one of the fastest growing “new” hobbies, with Backyard and Sideline Beekeeping being the “HOTTEST” occupation in the world!

Your two questions are really just one! How do honey bees deal with temperature? They do have ways of dealing with hot and cold differently. Honey bees are great at thermoregulating, which is a big word for controlling temperature. Not only can they control the temperature (+/-95 degrees), they can regulate the humidity (50%) which is how they keep the brood nest warm and humid just like an incubator.

In the cold season, honey bees also thermoregulate but instead of defusing the temperature or reducing it, they must create heat! Honey bees have a unique way of flexing their flight muscles, which generates heat. The worker bees will eat honey (energy) and flex their muscles, which creates heat warming the brood nest; they don’t worry about the honey getting cold!

Shade and a water supply both help in the warm times of the year.
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Bob Brandi, California
Patrick Wilbanks, Georgia
Peter Kallas, Wisconsin

55 YEARS
Dooley Toyne, Colorado
Hachiro Shimanuki, Florida

60 YEARS
George Eiden, Minnesota
David Sundberg, Minnesota
In **MEMORIAM**

**Roberta Glatz**, celebrated researcher and ABF member since 1968, recently passed away at age 98. She became one of the first female presenters at the Eastern Apiculture Society conference in 1974 and attended American Beekeeping Federation and Apimondia conferences regularly since the 1960s.

**Celebrated honey bee authority**

**Dr. Eric Carnes Mussen**, an internationally known 38-year California Cooperative Extension apiculturist and an invaluable member of the UC Davis Department of Entomology and Nematology faculty, died Friday, June 3 from liver cancer. He was 78.

---

**Remembering Eugene “Gene” Killion**

*By Charles and Karen Nielsen Lorence*

If you have been around long enough in the beekeeping industry, the name Gene Killion not only rings a bell but it also inspires awe. Gene passed away on June 19, 2022 at the age of 98. With his perennial humor, Gene claimed he was (two years younger than) a centenarian and had been keeping bees since he was five years old. Gene’s family was a member of the American Beekeeping Federation since its inception. His father, Carl Killion began the stellar bee hive inspection program in the State of Illinois and, in 1971, Gene took over from his father. He remained on the staff until 1990 when he retired. Fifty plus years had passed since the inspection program had begun! At the height of the program, he oversaw about ten inspectors. All the pioneers in the industry were Carl and Gene’s friends.

Gene was in the US Air Force during World War II. When he left, he sold his honey to his father for 5¢ a pound and his father forewarned him, “Someday you will be selling your honey for $1.00 a pound.” Again the Killions were on the cutting edge when they began selling pollen traps, were the first to sell pollen supplements, and packaged their honey in plastic. They were the first to have a stainless steel extractor from A.I. Root.

The Killion family has always been a well respected family in Paris, IL and continued to impact the beekeeping industry in the United States.

The Killion family has always been a well respected family in Paris, IL and continued to impact the beekeeping industry in the United States.

In the late 1940s, Gene studied under Dr. Bert Martin of Michigan State University to enable him to be a judge of honey. Over the years, Gene was the chief judge of many national honey shows, writing several articles on how to judge honey exhibits.

With this fine history behind him, it was in 2016 that Gene was attending the American Beekeeping Federation convention in Ponte Vedra, Florida. There he was giving a presentation and met the chef. They became fast friends and Gene helped to make Sawgrass Marriott more natural-food oriented.

A cute story that was remembered by Gene is when his father, Carl, built a camper truck to drive to the bee convention down in New Orleans at the Roosevelt Hotel. It just so happened that the major league baseball convention was being held at the same time. Needless to say, Gene and his brother were mesmerized by meeting many of the ball players and getting their autographs rather than going to the bee meetings with their mom and dad.

Gene is survived by his son Mark in Paris, Illinois. Condolences can be sent to P.O. Box 96, Paris, IL 61944.

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Each year in October, HONEY WEEK is celebrated in Paris, Illinois. This commemorates the anniversary of the issuing of a bee stamp in 1980. Gene’s father Carl worked tirelessly with the U.S. post office as did Gene as his father aged.
The ABF State Delegates Assembly meets the second Tuesday every other month. Our second meeting was held on May 10, and our guest speaker was Frank Rinkevich. Frank is the Research Entomologist with the Baton Rouge Bee Lab. His topic was "Amitraz Resistance and How Members Can Participate in 2022 Resistance Survey."

We were fortunate to introduce our new management staff from ADG: Kathleen Van De Loo, Robin Granger, Elyssa Ciresi, Julianne Okun and Clare Hart.

We also introduced several delegates who are new to our assembly:

Virginia Webb – Georgia
Robert Stevens – Utah

We reviewed the State Delegates Assembly goals for 2022 and the current status of those goals:

1. Get 100% states to have at least one (1) State Delegate – 92%
2. Get 85% states to allowed number of Delegates – 95%
3. Get 5 states to be Platinum sponsors – 80%
4. Get at least 35 Delegates to attend/participate in the bi-monthly calls
5. Increase Gold, Silver, Bronze state sponsorship by 10%
6. Write article in every quarterly – 100%
7. Write article for e-Buzz – 100%

After discussion about the goals and how we can achieve them, we talked about how to share information about ABF with our delegates and how our delegates can share information back to ABF. We have a new Media Kit which was sent to all State Delegates.

Our next point of business was our guest speaker, Frank Rinkevich. Frank and his team will be traveling across the US to gather information for the 2022 Amitraz Resistance Survey. He had a very informative presentation which he allowed us to share with all the State Delegates. If you’d like a copy you may download it [here](#).

Each state having ABF members may appoint a state delegate to serve as a liaison between ABF and its state association and local clubs. Each state delegate acts as a membership and legislative coordinator — communicating important membership and legislative information between ABF and the state and local clubs.

Let’s grow together! Don’t miss this opportunity to publicize your state meetings. Let us know if you want your state more involved with the membership and legislative happenings and consider becoming a state sponsor of the ABF.

If you are interested in participating in this year’s field test, contact Frank at Rinkevich, Frank - ARS [frank.rinkevich@usda.gov](mailto:frank.rinkevich@usda.gov) or call him at 225-276-3998.

Our remaining 2022 meetings are listed below. If you are a state delegate, please add these to your calendar and join on the next call.

July 12
September 13
November 8

If you are a State Delegate and were unable to attend the meeting but would like the presentation, or would like more information about the State Delegates Assembly, contact Debbie Seib at seibshoosierhoney@yahoo.com.

Regards,
Debbie Seib, Chairman
State Delegates Assembly
crème de la crème

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Each year, the Foundation for the Preservation of Honey Bees challenges 4-H members from all over the country to submit an essay on a topic related to honey bees. Each state chooses its finalist and submits his or her essay to the Foundation for judging. The 2022 Essay Topic was Transportation: Minimizing Stress on Bees While Getting Them Where They Need To Be.

Each year, approximately 1.5 million honey bee colonies make the trip to California to pollinate almonds, mostly via large trucks. The movement of these colonies, along with another half million colonies based in California, constitute the largest insect migration event in the world (albeit assisted migration). Many beekeepers often need to move colonies to various apiary locations, or for local pollination, etc. What are the major stresses on bees during local and long-distance transportation?

Writers were asked to give specific examples for how those stresses can be minimized when moving colonies within an apiary, during short-distance movement among local apiaries, and during long-distance movement across state lines.

*Long-distance bee moving is any move that cannot be accomplished in one night, and therefore the load must be netted so that the bees don’t fly off the truck during the day. Any other bee movement can be considered local even though it may be a 250-mile trip or longer.*

Three cash prizes were awarded in the 2022 National 4-H Beekeeping Essay Competition in the amounts of $750 for first prize, $500 for second prize, and $250 for third prize.

First place goes to Sophie Grow, who is 15 years old and is a senior in Jackson County, Oregon 4-H. She is heavily involved in many projects, including leadership, rabbits, poultry, shooting sports, horticulture, photography, sewing, and foods. This is her third year competing in the 4-H Beekeeping Essay competition, taking first place in the state of Oregon in 2021. She entered an educational display on honey bees in 2021 in the Jackson County Fair about threats to honey bees (using the 2021 4-H Beekeeping Essay topic) and educated the public on what threatens the honey bee and how they protect themselves. Because of living in the city, limitations prevent Sophie from owning bees herself, but she enjoys learning all she can about beekeeping from her friends and 4-H club leader Deb Brown, who raises honey bees.

Following is Sophie’s essay.

## Honey Bee Travel Without Stress: Why Our Nation Depends on It

It is estimated that 80% of all crops grown in the United States require pollinators. Many agricultural crops, on the order of $14 billion dollars’ worth, depend upon domesticated bee hives to help with pollination, and some, such as almonds, are 100% dependent upon the honey bee. While many people witness honey bees at work, they do not think about how they got there in the first place. Transportation of honey bees can be stressful for the transporter and beekeeper but most of all for the traveling honey bees. Beekeepers must implement strategies to minimize colony stress and reduce the amount of total hive loss during transportation. In doing so, the entire United States’ food supply will benefit.

Honey bees will be moved from state to state or apiary to apiary during the spring bloom season, for the pollination of crops. This travel is driven by the profit of pollination services (valued at roughly $250 million to more than $320 million annually). Large-scale crop pollination is beyond the capacity of local hives, therefore requiring honey bees to be brought in from elsewhere. While this essay mainly discusses transporting honey bees on a large scale, all of the stress-reducing methods and regulations can and should be implemented on a hobby beekeeping scale also.

Whether you are moving honey bees to a local apiary or for large-scale almond pollination, consider the critical need to provide a consistent temperature and adequate ventilation and hydration. Honey bees are one of the few insect species that can thermoregulate much higher than ambient temperatures. They do this through coordinated social behavior, and they have evolved to rely on stable, warm temperatures between 32-35 degrees Celsius (about 90-95 degrees Fahrenheit). Deviations from this range are stressful.

Long-distance transportation of colonies is associated with increased colony stress and loss, as honey bees cannot forage during transport and may be subjected to excessive heat or cold, depending on the season.

Another factor to consider when transporting honey bees on a large truck is close proximity to other hives/colonies. The spread of disease such as Nosema or parasites like Varroa mites is more likely when hives are shipped together. Traveling bees also have greater oxidative stress levels, which ages them more quickly and may lessen their capacity to fight off disease and parasites. Large-scale commercial beekeepers and hobby beekeepers often employ routine pesticide applications to kill mites and other pests throughout the year but not necessarily before transport.

In a recent interview with Noah Clipp, a commercial beekeeper and owner of Noah’s Bees and Products in Grants Pass, Oregon, it was discovered that Noah has had an abundance of experience transporting bees for pollination services. He has transported them for pollination services from 30 to 500 miles away. When asked about necessary equipment for shipping hives, he said, “You need to keep a net around the hives, so they don’t fly away during transport.” He explained that it’s best to travel with bees at night. The bees are less likely to leave the hive because of low temperatures (honey bees do not like to fly in temperatures under 40 degrees Fahrenheit). Traveling at night also reduces stress for the bees because they do not feel the need to move around as much. Even though some beekeepers tape the entrance to the hives during transport, Noah does not because it limits airflow to the hive.

Noah explicitly states that colonies can get overheated, more so in warm weather, because each hive in close proximity during transportation generates a lot of heat. He said that once, his transport truck had to call the fire department to spray their hives with water to cool them down. “Sometimes you can’t avoid traveling in warmer weather, like if you have a contract to pollinate clover fields (that need to be pollinated in June).
Be aware of weather and be prepared, same as in cold weather, and have the right equipment handy," Noah said. In warmer weather, driving at night is the best solution. Noah marks his hives that are low on honey so he can feed them extra, especially before travel. Noah explains that the largest cause of stress from transporting honey bees is "all the jostling and movement that isn't normal for them."

The main ways to minimize honey bee stress during transportation include traveling at night to reduce the movement of the bees, feeding heavily before and after transportation (but not during transportation), implementing regular disease/parasite treatments (but not specifically before transport), covering hives with a net to prevent bee loss (this is required when transporting bees), and lastly, securely strapping hives to the truck to minimize movement.

When moving honey bees across state lines, the majority of U.S. states have regulations mandating hive registration, inspections, and certifications of health for colonies and bee products prior to transportation. A few states, however, have none at all. In Noah’s experience, when crossing the Oregon/California border, you have to stop at the agriculture station, present who is transporting the bees, and where they are going. There is a decided minimal inspection of the outer hives, checking for noxious weeds or dirt clumps. They do not open the hives for a full inspection or request a permit.

It is important to know how to transport honey bees as stress-free as possible, to be certain hives prosper wherever they are going. Knowing state regulations on hive transport will eliminate unnecessary stress, both for the transporter and bees. Because honey bees are vital to 80% of the U.S. crop yield, their importance cannot be overstated. Whether honey bees are aiding the pollination of our nation’s crops or traveling to a new home, any stress that can be avoided, should be.

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The second-place winner is Caleb McWhorter, a fourth-year member of the Del Arroyo 4-H Club, Alameda County, California. Science is his favorite subject, and he did an animal report term project on Betta fish. Caleb has presented at his school district’s science fair twice and also won the Livermore science poetry contest twice. Some of his favorite 4-H projects are Agroborotics, Cavies, Coding / Micro: Bit, and Rocketry. Caleb loves learning about animals, the environment, and technology. For this 4-H honey bee essay project, he enjoyed doing research on the lives of honey bees, the important job they have to do, and how we can better protect them.

Following is Caleb’s essay.

Honey Bee Transport Stress Relief!

About 75% of crops (fruits, vegetables, nuts, grains) and of our world’s food supply need pollinators like honey bees to help them grow (Our World in Data, 2013). In the U.S., between ½ and of honeybee colonies are transported during pollination season each year; about 14-43 million individual bees are transported in the U.S alone. (Schukraft, 2019). The honey bees are typically shipped in their hives on open-air semi-trucks. Beekeepers rely on experienced truck drivers like Idaho-based Earl and Merle Warren to transport their hives safely; the Warren brothers started hauling bees in 1990 and they say they have moved 50 loads of about 22 million bees for beekeeping and honey companies like Browning’s Honey Company (Sporrer, 2022). A honeybee colony may be moved across the country several times a year, often traveling thousands of miles, for example from North Dakota to Northern California to Central Washington and back to North Dakota (Schukraft, 2019). Yet, honey bees are fragile and sensitive; and stress can lead to hive collapse, declining populations, and failing crops. There are five major stresses on honey bees during local and long-distance transportation.

First, honey bees can get stressed during local and long transportation [by truck or airplane] because they get disoriented when they are moved away from their home base. One possible solution is for the beekeepers and transporters to do inching. Inching means moving the bee hive from place to place in small moves (a series of short drives/trips); and you can put markers like twigs and branches near the hive entrance to help guide the bees back when at a new location (BKC, 2022; Flow Hive, 2020).

Second, honey bees could get stressed because of poor ventilation [airflow] and hot conditions. The average 400+ tightly packed beehives on a semi-truck give off a lot of heat; and transport in extreme heat or humidity should be avoided if possible (Wyns, 2018).
According to trucker and bee hauler Earl Warren, “The hotter it gets, the worse it is. It’s all about timing. You have to know how many miles your run [trucking route] is. You stop for a potty break, and the bees are out [flying away]! because they’ve lost the airflow” (Sporrer, 2022). One solution is to arrange the hives on the truck bed for proper airflow; drive at night when it’s cooler outside; and bring a spray bottle or a hose to periodically cool the bees off with cold water or sugar syrup so they do not get overheated (BKC, 2022; Schukraft, 2019; Sporrer, 2022; Wyns, 2018).

Third, honey bees may get stressed due to lack of food and resulting hunger. One solution is for the beekeeper to plan ahead when preparing their hives for transit, giving them enough food for at least 1-2 days. It is best to include the bees’ honey and some honeycomb on a few of their beehive frames in their hive-box (BKC, 2022).

Fourth, honey bees might get stressed because of vibrations they feel during transportation. In the hive, bees use vibrations to communicate with each other through the honeycomb — so vibrations from the truck’s motion confuse them. One solution is to properly secure the beehive boxes (with ratchet straps) and use some padding to cushion the hives before driving (BKC, 2022; Flow Hive, 2020).

Fifth, honey bees can get stressed because of many unfamiliar noises they detect in the environment as their transport-truck moves down the road. One solution is to transport the hives at night when it’s quieter and less busy on the road, which reduces their exposure to the noises from daytime sources like passing traffic and sirens; and bees are also less active at night (BKC, 2022).

It is important to note that moving honeybee colonies across U.S. state lines is governed by state livestock and bee movement laws, which could be different in each state that the bee transporter is traveling through. Make sure to map the route and research each state’s policies (you could contact the state apiarist), prepare to transport the hives in a way that meets local regulations (there is a subset of operators in the transportation industry specializing in bee hauling), get special permits if needed, and know that some states may have quarantines against [not allow] commercial bee movement across their state because they are trying to control diseases and pests of bees. Bee colony health inspections may be required to enter, exit, or pass through states with live bees; the regulations are strict for California (BKC, 2022; Wyns, 2018).

In conclusion, commercial honey bees are very important to the survival of our Earth’s food systems — meanwhile, they must travel across the country [by truck or sometimes by plane!] to pollinate different crops throughout the pollination season; U.S. state laws govern the bees’ transport; and the bees face various stresses during their transportation. But the stresses can be managed with our help, thanks to best practices learned and shared by beekeepers, researchers, and honeybee haulers /truckers!

Sources

Through her research, she learned a great deal about bees and why they are important to our lives.

Following is Abby’s essay.

3 The Wild and Wonderful Transportation of Bees

The transportation of bees can be a situation that is abuzz with excitement, but also could be a stressful event for the bees. There are several ways to help bees maintain a calm demeanor and reduce stress during a transportation event. The first thing is to make sure the weather will be warm. The second thing that you will need to do to prepare for transportation is to ensure that the hive is secure. Lastly, a thing to consider is the actual transportation method. This would be the vehicle and the conditions needed for proper transport.

The weather is one of the most important things when transporting bees safely. The best temperature to transport bees is fifty degrees Fahrenheit. The weather will need to be warm because in the colder months, the bees are dormant. They focus all their energy on protecting their queen and staying warm. If you do transport the bees during the winter, there is a chance that during the drive the bees may fall away from the cluster and will not be able to return. As a result the bees will freeze and die. Although the weather must be warm, the weather can not be too hot. If the weather is too hot your bees may overheat. When your bees overheat it will cause them to stress out. So to ensure the safety of your bees, transport them during the warm spring weather.

Once the temperature is acceptable for transportation, the next step is to secure the hive. If there are any large spaces your bees can get through, apply multiple layers of strong duct tape. For small seams in the hive, staple mesh or tulle fabric. Do not just cover all of the holes, seams and cracks with tape. This will restrict good ventilation and air flow inside of your hive. If you feel the need to have extra protection you can wrap the whole hive in tulle fabric, which

4-H ESSAY CONTEST WINNERS
Continued

Third place was taken by Abby McCoy, a ten-year-old member of the Wild Spirits 4-H Club in Doddridge County, West Virginia. This was her first year in 4-H, and she had the opportunity to ride a horse for the first time and learn about horse husbandry. Abby enjoys nature and learning about ecosystems, which is why she decided to enter the essay competition.
can be purchased at your local fabric store. If you can’t find or don’t want to buy tulle fabric, another suggestion is to use a mesh laundry bag. You will also need to close up the entrance to the hive. You can do this early in the morning before the forager bees come out, or you can wait until night when all of the forager bees have returned. When moving the beehive into your vehicle, always suit up. The bees are not always happy with you moving their hive, especially at night. Even though you secured the hive, you should still suit up in case a bee escapes. At night, bees are more likely to crawl than fly. Guard bees are also much more quick to sting. Following these steps will ensure a safe relocation of the bees, while reducing stress.

Once you have the right temperature and have secured the hive it is time to actually transport the bees. When you go to put the bees in your vehicle, it may be tempting to put the bees in your trunk so there is a barrier between you and the bees but, your trunk does not have proper ventilation and can overheat the bees very quickly.

If your hive is big enough, you can put it in the seat belt. If not you can put it on the floor in the back of your car. Have a few ratchet straps on hand to really make sure your hive is secure from all around. Make sure you drive slower to ensure your bees don’t roll around or slide even though you have taken all proper precautions. Have a spray bottle filled with cold water on hand to occasionally spray your bees. The cold water not only keeps them from overheating but it also calms the bees down. You can also use a smoker if you feel your bees need it. Make sure you have a bee suit on hand for when spraying your bees. It is not recommended to wear a bee suit while driving. The veil on the suit can hinder your vision. You can wear a bee jacket if it helps to relax you. Make sure to blast your air conditioning and roll down your windows. Even though you have sealed all of the entrances some bees can and will escape. When this happens, close your windows and do not panic. The bees will fly towards the windows and not at you. Although some of the bees have escaped, that does not mean all of them will. Continue driving toward your destination and ignore the bees.

Congratulations! You have successfully transported your bees to their new location! If you have followed the steps above you bees have had a successful transport with the least amount of stress possible. If you have moved less than three miles from your old location lock the bees in their hive for seventy-two hours after transporting to the new location for them to go through the sequestration process.

References


These essays may also be found at preservationofhoneybees.org/essays/2022-essays.
Diana L. Cox-Foster, Research Leader, USDA/ARS/PWA Pollinating Insect Research Unit

Diana Cox-Foster is a Research Leader and Entomologist at USDA-ARS-PWA Pollinating Insects Research Unit (PIRU) in Logan, Utah. PIRU is focused on the biology, management, and systematics of all bee species. Cox-Foster’s research focuses on the impact of pathogens and pesticide stresses on bee health. Cox-Foster received a B. S. in Entomology and Zoology at Colorado State University and a M.S. and Ph.D. in Entomology at University of Illinois at Urbana-Champaign. Cox-Foster gained skills in molecular biology as a post-doc at Vanderbilt University. In 1987, Cox-Foster joined Penn State University in Entomology as a faculty member and served as a full professor. At PSU, Cox-Foster was one of the initial scientist responding to colony collapse disorder in honey bees and was the co-lead of the Colony Collapse Disorder working group. Her research also focuses on native bees. She transitioned to USDA-ARS in October 2015 as the Research Leader and Location Coordinator.

Join Diana on Wednesday, January 4 for her Keynote Presentation on “Understanding stressors and impacts on bee health- Synergies of Agrochemicals and Pathogens”.

Dr. Samuel Ramsey, Ramsey Research Foundation

Dr. Ramsey received his B.S. in entomology from Cornell University and his Ph.D. in entomology from the University of Maryland College Park. He completed his post-doctoral training with Dr. Jay Evans, Steve Cook, and Daniel Sonenshine at USDA-ARS Bee Research Laboratory and now serves as Endowed Professor of Entomology at CU Boulder’s BioFrontiers Institute and the Ecology and Evolutionary Biology Department. Featured on Hulu’s Docuseries: Your Attention Please as well as in the Washington Post, on NPR, CNN, Wired, CBS This Morning, Khan Academy, Seeker, The Today Show and several local news segments, Ramsey is celebrated as an engaging science communicator. He uses this talent to make science more accessible to a broad audience. His nonprofit, The Ramsey Research Foundation, works to remove barriers that slow the progress of and decrease access to science by developing novel pathways for scientific funding and by removing paywalls that keep the public from engaging with published scientific work.

Join Dr. Ramsey on Thursday, January 5 for his Keynote Presentation on “How to Stop a Pollinator Pandemic”.

Jay Evans, Research Scientist, USDA

Jay Evans is a Lead Scientist with the USDA Bee Research Laboratory in Beltsville, MD. The BRL is focused on the development of management strategies to help honey bees thrive in the face of disease, chemical stress, and inadequate forage. Lab members are developing and testing new nutritional and anti-disease products, and are especially interested in how bees respond to multiple stress factors and the efforts beekeepers might use to help them through these challenges. Jay’s own research uses genetic techniques and controlled challenge experiments to find new ways to reduce the impacts of parasites and pathogens. Current projects are focused on parasite genetics and the development of novel, safe, controls for mites and viruses. Jay received his AB in Biology from Princeton University in 1988 and his PhD in Biology from the University of Utah in 1995.

Join Jay on Friday, January 6 for his Keynote Presentation on “Understanding and Managing Honey Bee Disease”.

Meet the Keynotes!

Check out the full conference schedule and registration details at: www.abfnet.org/mpage/2023ConferenceRegistration

American Beekeeping Federation Conference & Trade Show

January 3 – 7, 2023

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David Shenefield, Clover Blossom Honey, Indiana
The last few years have provided an opportunity to assess the status quo in beekeeping education. As our membership associations return to on-site meetings, on-site workshops, conferences, and field days, leaders need to continually assess their services to their members. For decades beekeeping groups have repeatedly recycled the same education topics, same meeting format, and even the same speakers for their meetings. Because the beekeeping demographic changed over the past twenty years, member associations and their leaders must adapt their vision to serve their members. “Wash, rinse, and repeat,” of program and education activities will not retain members, nor does it welcome new members.

Retaining members is vital to the sustainability of member associations. The past few years of social gathering uncertainty and adjustment should have inspired every association to reassess their member services. Every successful mission and service-focused group and nonprofit regularly evaluates its function and mission, staff and volunteer roles and responsibilities, organizational policies, procedures, and its programs supporting the mission. Too many groups think they can just “return to normal.” First, “normal” has yet to fully return, and two, was the old “normal” benefiting the members and serving the mission of the association?

Decreases in both membership levels and member participation have been felt in many beekeeping associations. There are ebbs and flows no matter the mission of any member association. However, as new beekeepers come on board, do they stay past three years? Of your experienced and intermediate beekeepers, how many have remained active in the association past five years, 10 years? Many beekeeping associations promote the fellowship of beekeepers as a selling point for membership. However, problems ensue when the bee clubs do not modernize the By-Laws, allow a culture of sexism and racism to exist, refuse to follow financial policies and procedures, and have a stagnant leadership that has not changed for ten years and more, that is not fellowship, just a clique.

Beekeeping associations, actually all nonprofit member groups, have an opportunity due to the pandemic shut-downs, to evaluate, modernize, refresh, and serve their mission.

The William and Flora Hewlett Foundation provides “A Guide to Organizational Capacity Assessment Tools” 1

“What does a successful organizational assessment experience look like? A successful experience relies on the following elements:

**Shared interest in learning:** A team involved in the assessment process who are knowledgeable about the organizational issues to be discussed, bear responsibility for successful functioning and results in these issue areas, are motivated to participate, and have the individual capacity to fully participate (i.e., time, resources, openness)

**Defined time frame:** A clearly described, time-limited process

**Accountability for undertaking change:** Team agreement on expectations for identifying and implementing some degree of organizational change, and a clear decision-making process for this purpose

**Manager:** Someone responsible for managing the process and timeline—ensuring that participants do what they need to do within the agreed-upon time frame

**Individual reflection:** Time for individual reflection by each team member on the organization’s strengths, weaknesses, opportunities, and threats

**Collective meaning-making:** One or more blocks of time for the team to discuss and jointly make meaning of the collected reflections about the organization

**Decisions that lead to action:** Leadership for implementing changes within a defined time period; allocation of resources needed to make the desired changes (e.g., staff, budget, consultant help).”

The National Council of Nonprofits provides additional resources for nonprofits to assess and evaluate the organization for service to the mission. It is vital for the sustainability of all volunteer-run member associations, and those with staff to regularly evaluate the organization and measure their progress toward meeting the organizational goals and the mission. Those that do not want to conduct this organizational due diligence, are those with stagnant membership rolls, poorly attended educational presentations, and a frustrated, disappointed and disappearing membership and audience.

“Associations play a vital role in connecting people, providing information, advancing members’ careers, and furthering their industries or professions. As technological, social, and economic shifts change how people work and engage with each other, associations have to find new ways to connect with future and potential members.” 2

“...to understand these shifts affecting the way associations and their members are thinking about membership, the ASAE Foundation solicited research proposals to provide answers to key questions related to the future of membership:

- What are the disruptive innovations in other forms of affiliation that are proving to be viable solutions for people seeking to identify with groups and advance their interests?
- How will engagement behaviors of individuals and organizations be affected in the future by the economic environment?
- What is the nature of community, and what unique roles are “associations of the future” uniquely positioned to serve?

Leadership needs to ask its members what they want, and how they can be served. Outreach to past members will help the association understand why those members left, and what they seek in a member association.

Beekeeping is a solitary activity. To enact sensible beekeeping laws, pollinator protection, support for small and commercial beekeeping businesses, support for pollinator habitat development, and protection from pesticides (the beekeepers, their honey bees, their honey and hive products, and native pollinators, then beekeeping associations must be a group activity.

As beekeeping associations re-open to on-site programs and events, leaders have an opportunity to assess your member association, ask your members, ask your leaders, what are the “means for building ties and making connections with others,” how do diverse people (members, fellow stakeholders, general public) view the value of your member association.

Michele Colopy is the Executive Director of LEAD for Pollinators, a nonprofit providing leadership, education, action, and development to support the health and sustainability of honey bees, native pollinators, and the keepers of the ecosystem. Learn more at www.leadforpollinators.org


3. Creating Models of Affiliation Engagement
THE NATIONAL HONEY BOARD’S (NHB) MISSION is to drive greater honey sales, usage, and awareness in the U.S. To that end, the NHB activates strategic marketing campaigns across retail, food service, consumer, and ingredient business segments. In addition, the NHB provides a range of free services to support honey producers and retailers. Marketing services to support the honey industry are a focus for the NHB. Industry members can use all the following, which can be found on honey.com:

**Honey Locator:**
This interactive tool enables consumers and food manufacturers to find specific honey varieties and sizes. Listings are free.

**NHB Store:**
A variety of marketing materials are available at no cost. Also, honey bee and honey fact sheets and educational materials are free to download.

**Honey Nutrition Information:**
Information and graphics display honey’s nutritional profile.

**Celebrating Beekeeping Video Series:**
A library of videos about beekeepers and their role in producing honey and helping the planet is free to share.

**Consumer and Marketing Research Reports:**
Stay abreast of consumer preferences and sales trends with these annual marketing research reports.

Need support and want to connect with our NHB marketing team? Feel free to reach out any time to honey@nhb.org.
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Committee Report

As I compose this article halfway through 2022, I’m excited to see all the new promotional opportunities which Queen Lucy will promote this year. Thank you to all of our new promotional sponsors and hosts for allowing the American Honey Queen Program to promote alongside you and bring a greater spotlight to our industry. I encourage you to read more about Lucy’s travels in her report in this newsletter.

I noted in our last newsletter that the American Honey Queen Committee was seeking avenues to help expand the number of state honey queen programs and applicants to the American Honey Queen and Princess positions. In June, the Committee revised its application process to now allow women from states without active honey queen programs to apply for these national positions. While the state honey queen programs will continue to be the foundation for the American Honey Queen Program, we consistently receive questions annually about how a woman from other states can apply for our spokesperson positions.

We will continue the practice of having one applicant from each state, but allowing women to apply to the program if they do not have a state or local honey queen program available to them will be a positive step forward to strengthen and enhance our state honey queen programs and broaden the program’s ability to promote throughout the United States and in new markets.

Interest forms were made available to women in these states in July with preliminary screenings following shortly thereafter. Full application materials are made available to successful candidates and state honey queens in early August of each year. We are eager to see what 2023 will have in store for the application process.

I continue to encourage you to contact me with your promotional requests. While Lucy’s schedule is robust and diverse this summer and fall, we might find some additional time available in her schedule to visit your event. If not, we’d love to get your event on our 2023 calendars when we plan to have two representatives participate to even more promotions.

To request a visit from American Honey Queen Lucy Winn or to discuss a remote presentation or interview, contact me at honeyqueen99@hotmail.com or call me at 414-545-5514.
Summer is here! This spring, I busily promoted local honey while emphasizing the vital role of honeybees in agriculture.

In April, I focused on school presentations and media interviews. On April 5, I presented to 140 elementary school students in Bethlehem, PA, about the three types of bees in the hive and the importance of honeybee pollination. One of my favorite questions asked was about honey varieties, allowing me to emphasize the different functions, forms, and flavors that can be found in honey. A few days later, I gave a presentation to 37 students in Emmaus, PA, highlighting honeybee biology. The students were in the middle of their insect unit, and all came prepared with great questions. That same day, I virtually revisited a school in Minnetonka, Minnesota, speaking to 20 first and second-graders. I was interviewed by The Sentinel, a newspaper in Carlisle, PA, about my role as American Honey Queen and Pennsylvania beekeeping. This media opportunity was valued at approximately $3,790. An interesting aspect of this interview was that I received the questions from the reporter beforehand, and I answered them in written format. This is a great example of how I could participate in media opportunities remotely, and I would love to do this for your state!

I continued with school presentations in May. I presented virtually to Carson Middle School in Carson City, Nevada, on May 3 during their Career Exploration unit. The students asked many questions about commercial beekeeping and meeting pollination needs across the United States. I hope they were inspired to do more research about jobs in the beekeeping and honey industry. On May 4, in Bethlehem, PA, I gave a presentation to 180 students and teachers of Moravian Academy. The school has on-campus hives, and it was delightful to talk to the school’s beekeeper about the different challenges of having hives on school grounds. From Moravian Academy, I went to the Carlisle Area Science Advisory Committee’s banquet, honoring the area’s top science students from elementary to high school. The highest-scoring science fair projects were also recognized at this event. This was especially significant for me because I competed in the exact same competition from fifth through ninth grade.

I gave a speech to the crowd of 250 highlighting some of the many careers in beekeeping.

The Macdonough School in Middletown, Connecticut, was in the midst of their insect unit and using honeybees as a model for their lessons. On May 5, I spoke about the three types of bees in the hive, focusing on their biology. It’s encouraging that schools are educating students on honey bees. Special thanks to Ted and Becky Jones, who have encouraged many Connecticut middle schools to connect to the Honey Queen program virtually these last few years. I’d love to speak to schools in your area this fall and am available for virtual presentations if I can’t visit your state in person!

I spent a day at Nitschmann Middle School in Bethlehem, PA, on May 16 giving cooking with honey demonstrations to a total of 96 students in grades 6-8. With their help, we made honey French toast, a recipe you can find at honey.com. After school, I presented to the environmental club, discussing honeybees’ positive impact on agriculture and ideal flowers for a pollinator garden. Many schools have after-school clubs that are looking for ideas to better their school in a significant and straightforward way. After most school presentations, I am asked about the best way to make the campus more pollinator friendly. Having a separate presentation planned allows for more information and involvement. This is a wonderful opportunity to add to the schedule when the Honey Queen visits your state.

My out-of-state travels resumed once my college semester concluded. The first stop was in Texas May 27-29. BuzzFest hosted by BeeWeaver in Navasota is a festival featuring all things honey bee. The event is focused on bringing beekeepers together to highlight products of the hive and the wonders of honeybees to non-beekeepers. The one-day event was attended by over 500 people! Some interesting features of BuzzFest include honey varietal tasting, a queen catch demonstration, a live band, and even a booth where you could taste queen larvae with chocolate! I was partnered with SweetNess Honey, a local honey farm owned and operated by Danessa and Brent Yachuck. We completed product demonstrations with pollen, flavored honey, creamed honey, and comb. At the event, side by side with 2022 Texas Honey Queen Marie Yancheck and beekeeper Chris Barnes, I demonstrated my first bee beard. While we wore the bees, we walked around the festival, taking pictures, and greeting the crowd. It was exciting to show the public the true gentle nature of honeybees. Thank you to Danny and Laura Weaver, who hosted me and put on an amazing event.

I traveled to Kansas City, Kansas, for promotions in the Sunflower State from May 30-June 4. My first event was the Overland Park Farmers’ Market in Overland Park. With Heartland Honey and Beekeeping Supply’s Joli Winer, I helped sell

Queen Lucy demonstrated a bee beard with the Texas Honey Queen at the BeeWeaver BuzzFest in Texas.

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Queen Lucy points out different features of the observation hive to farmers’ market attendees in Kansas.
honey products and wonderful soaps, lotions, and lip balms made of beeswax. In addition to her beautiful products, Joli also had an observation hive. Shoppers were fascinated seeing the way honey bees interacted in the hive and enjoyed looking for the queen. During this promotion, I approached a local television reporter and had an interview about recent beekeeping events. I also shadowed a beekeeper, Kristi Sanderson of Sweet Prairie Honey, during her workday. We checked for queens, fed hives, and visited a new beekeeper in a variety of locations, including her hives at a corporate building! I enjoyed learning more about Kansas beekeeping and getting a glimpse into the day of a professional beekeeper. I attended the Northeast Kansas Beekeepers Association (NEKBA) Bee FunDay on my final day in Kansas. I met many wonderful Kansas beekeepers, learned more about the honey industry in the state, and gave a presentation on the economic contribution of honeybees in Kansas and beyond. I also assisted Louann Haustner (1996 American Honey Princess) with her presentation on cooking with honey. Louann hosted me during my Kansas trip, and I thank her for being a truly fantastic host.

Back home, on June 9, the Cumberland County Board of Commissioners presented me with a document of recognition for my role as American Honey Queen after I spoke to them about bee ordinances and the role of honeybees in the State of Pennsylvania. I was honored and truly grateful for their ongoing support of the beekeeping and honey industry.

From June 16-22, I joined many promotional events in Connecticut with Ted and Becky Jones of Jones’ Apiaries. Ted and Becky were wonderful hosts, and I thank them for having me in Connecticut. During my visit, I presented to a crowd of 50 at the Farmington Library. Some in the audience were especially excited to share with me the different pollinator-dependent crops they grow in their own garden. I presented the honeybee basics to residents at the Farmington Station Senior Living. On June 18, I attended Lyman Orchard’s Strawberry Festival, an event celebrating the strawberry season in Connecticut. I talked about pollination and showed some festivalgoers bees in an observation hive. I had even more presentations after the festival! On June 20, at Flanders Nature Center Camp, I gave four presentations to campers ages 3-13. I also presented to a 4-H group of 20, also at the Nature Center.

The Flanders Nature Center had their own hives, which was a great visual to show while talking about honeybees.

I had a productive, promotional spring and am looking forward to promotions in the future, including my upcoming promotions in Montana, Michigan, Pennsylvania, and Ohio. Please let me know how I might help your organization. To arrange for a visit from me, contact American Honey Queen Program Committee Chair Anna Kettlewell at 414-545-5514 or honeyqueen99@hotmail.com.
Kirsten Traynor, with worldwide co-authors, published a review article in *Trends in Parasitology* about *Varroa destructor*, the major negative beekeepers face in maintaining healthy bees. The authors state in their abstract: “Worrying observations include increasing acaricide resistance in the varroa population and sinking economic treatment thresholds, suggesting that the mites or their vectored viruses are becoming more virulent. Highly infested weak colonies facilitate mite dispersal and disease transmission to stronger and healthier colonies”.

This review has a good synopsis of recent developments in the biology, pathology, and management of varroa and virus interactions. It includes a discussion of RNAi and whether it might still become a probable future mite control, a discussion as to whether marker-assisted selective breeding techniques might become economically feasible in large-scale queen breeding operations for distribution of stock that is varroa-resistant and how we need to improve techniques in detection of mite and viral evolution. There are 100 references for further exploration in this rapidly developing research arena.

Hygienic behavior is the best-studied honey bee social immune defense strategy for fighting mites. Olfactory cues released from within capped cells that contain varroa mites diffuse through the cell cap and stimulate adults to uncap pupal cells. Sometimes they open cells in a specific area, some with, others without mites, in an apparent search for the mite-infested cell. After uncappping, they might remove their developing sister or recap cells. The search for a specific odor continues with several candidates being investigated.

Stephen J. Martin of Salford University (Manchester, UK) describes some of the parameters of such decision-making by adults that uncap/re-cap cells of developing sisters. Contrasting varroa-naïve bees (UK/Australia) with populations of varroa-resistant bees (South Africa and Brazil), Martin and colleagues found very low re-capping behavior in populations not exposed to varroa mites and very high levels of re-capping in the mite-resistant populations. The mite-resistant populations targeted mite-infested cells. The search for a specific odor continues.

The Pol line of bees is a hygienic bee (VSH – Varroa Sensitive Hygiene) stock developed at the Baton Rouge, USDA Lab. Although available for a while, it has recently been closely examined for mite suppression/tolerance* effectiveness. The paper is open source and it includes a very extensive review (140 references). The introduction alone is worth reading. The study determined that Pol-line colonies showed significantly lower levels of three major viruses: Deformed wing virus A, Deformed wing virus B, and Chronic bee paralysis virus, all of which can cause significant problems for colonies. Results demonstrated markedly reduced *Varroa* levels in Pol line stock and a two-fold increase in survival. (Deformed Wing B is sometimes referred to as Varroa Destructor virus VDV).

Louisiana State University professor Kristen Healy, who worked with USDA scientists pointed out, “This kind of resistance provides a natural and sustainable solution to the threat posed by Varroa mites. It does not rely on chemicals or human intervention.” Besides the use of Varroa-sensitive hygiene (VSH), in which workers remove mite-infested brood, two other approaches to breeding bees better able to resist/tolerate mites and which have demonstrated increased colony survivorship, are a selection for grooming behavior and low mite population growth (termed low MPG).

Allogrooming (bees groom hive mates) and auto grooming (self-grooming) contribute to varroa resistance by the removal of mites from adult bee bodies. The mites are physically damaged by bees who use both mandibles and forelegs to remove mites. Damaged mites are subsequently unable to access a new brood cell to reproduce. Honey bees initiate allogrooming via a ‘grooming invitation signal’ – a whole-body vibrational dance lasting several
seconds — which stimulates other workers to groom the dancer. The mite-biter (or simply "biter") bee strain is commercially available.

Reducing the rate of mite population growth (i.e., "flattening" the mite growth curve) includes selection which comprises a suite of behaviors limiting Varroa reproduction. Since female mites have only a few eggs — enough for between an average of 1.5 to 3 reproductions — interruption of a reproductive cycle can significantly slow mite population growth. This has been the proposed method of mite resistance in the Russian bee stock, released by USDA and continued with a Russian bee Breeders group. Guzman, et al 2007 includes more information on this resistance mechanism.

It is critical with demonstrated resistance of mites to current miticides that our bees develop better mite defense mechanisms. The original honey bee host has such a defense, but our western bee is woefully inadequate in such defense. Breeding offers our best hope. Although some of the current efforts might not scale up to commercial needs, every development might provide clues as to how we can develop a more suitable honey bee.

* There is a difference between mite suppression and mite tolerance but not everyone agrees on how the terms apply to honey bees. Mite suppression means that selection to ensure fewer mites in a hive means there is less colony loss from viral infections. Mite tolerance means whatever the mite level, including a high mite presence, there is less loss of bees and colonies to viral infections. Tolerance might only be theoretically possible so most articles use the term mite suppression. However, some virus specials believe stocks such as Gotland selection (so-called "Bond" bee (as in James Bond film “Live or let die”) and local selected stock (Darwinian as defined by Dr Tom Seeley and others) are tolerant, not resistant, to mite damage. Research to support this includes high mite number persistence in these selected strains which never the less show less colony loss.

ENDNOTES:


• O’Shea-Wheller, T. A. et al. 2022 A derived honey bee stock confers resistance to Varroa destructor and associated viral transmission. Scientific Reports volume 12, Article number: 4852


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BEES
Unite the World...
“Bees Unite the World” was the theme of the 47th Apimondia Congress, and it was the right caption for this world beekeeping Congress.

After a year of COVID delay, Apimondia announced last spring the cancelation of the 2021 Apimondia Congress which was to be held in Ufa, Russia. It appeared we would be missing another year’s gathering of the world beekeeping community. However, moving the location to Istanbul, Turkey instantly resonated with beekeepers throughout the world as the best location to meet in 2022. A beautiful and vibrant city where Europe meets Asia.

Taking the stage for the ceremonial opening of the Congress, Dr. Pettis gave his opening remarks and then delighted the crowd with the recognition of a small but important delegation of beekeepers from Ukraine. The audience applause was inspiring as this defiant group of Ukrainians stood proudly with their country’s flag.

Certainly, the main objective of the Apimondia Congress is to facilitate the exchange of information and discussions through their scientific programs. Each day featured symposiums with hundreds of experts speaking about Honey Purity, Methods to Control Pathogens and Parasites, Apitherapy, Climate Change (a major symposium), Beekeeping for Rural Development, Bee Biology with Bee Behavior Physiology & Genetics, Looking Towards Resistant Bees, Quality Bee Practices and Breeding, Nature Based Beekeeping, Reproductive Biology, Bio-Pharmacology of Bee Products and many more Round Table discussions and workshops included.

The difficulty I had was deciding which program to attend and which to pass on.

The USA was well represented as presenters during the Congress Scientific sessions which included Ted Dennard, with Savannah Bee Co., Eric Wenger, speaking for True Source Honey Program, and Tucka Saville, a commercial beekeeper in New York and Florida.

Saturday technology ended with the forum from the Apimondia Regional Commissions which featured challenges facing all countries in the pursuit of dealing with adulterated honey. The discussion was focused on one new threat to the identification of what is Honey, and of a new product called Vega Honey. This unapologetic enterprise touts itself as Making Honey without the Bees. I thought this type of sweetener was just called syrup. Apimondia will be investigating more on this item in the near future.

The favorite event of almost all Congress is the ApiExpo. More than 150 beekeeping companies, honey brokers, local and national beekeeping organizations, government departments, and much more brought samples of honey and cosmetics, product info, and hardware to the convention exhibit area. A sampling of exhibitors included Balparmak, a leading honey packer in Turkey and Europe; Lyson, a major Polish manufacturer of beekeeping equipment and supplies; Rwanda UN/FAO Beekeeping Project; Randox Food Diagnostics; Iran Union of Beekeepers; VETO-Pharma from France; Moldova Honey Co.; Bee & You (Skin Care Products); Bruker, an NMR Honey Profiling System; Technoset Bee Hive from Greece; Konigin Equipment from
With the country’s extensive geographical regions from the desert, to the Mediterranean and far south, Patagonia and the Antarctic, Chile is working to offer tours to all regions.

If you have never had the opportunity to attend, you will want to check out the website and start making plans for Apimondia 48th International Apiculture Congress. It’s a wonderful opportunity to meet and learn about this small insect that brings the world together.

www.apimondia2023.com

Virginia S. Webb
ABF Delegate to Apimondia

P.S. Just a personal side note. For the fifth time, I was honored to win a Gold medal at the World Honey Show for my Sourwood Honey. What an amazing honor it is to know American honey can win against some of the best-known kinds of honey in the world. I ask everyone I meet at beekeepers’ meetings, “What is the Best Honey in the World?” I believe it is the honey from your own beehives. You will never taste anything better than what your bees are producing right in your backyard.
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