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ALSO IN THIS ISSUE:
Varroa, American Foulbrood & The Amazing Honey Bee
Why Beekeepers Need to Protect Bees from Pollination
Cover Crops: Almonds & Beyond
The 2022 American Beekeeping Federation Conference & Tradeshow, January 5-8, 2022, at South Point Hotel is quickly approaching! We hope you have made your plans to attend.

**REGISTER TODAY!**

Keynote presentations by industry leaders – Dr. Jamie Ellis, Dr. David Tarpy and Dr. Judy Wu Smart.

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(1st Term – Expires January 2022)
President
(701) 537-5214
jmgunter11@outlook.com

Dan Winter (EC)
(1st Term – Expires January 2022)
Vice President
(239) 564-0255
beeman.dan@icloud.com

Tim May (EC)
(1st Term – Expires January 2022)
Past President
tim@sunnyhillhoney.com

Nola Salisbury (non-voting)
Executive Director
(720) 616-4145
nsalisbury@abfnet.org

DIRECTORS REPRESENTING THE STATE DELEGATES ASSEMBLY
Roberty Duffy (1st Term – Expires January 2023)
(317) 726-6122
beekeeperin@aol.com

Warren Nelson (2nd Term – Expires January 2023)
(402) 261-3407
wnelson193@neb.rr.com

Blake Shook (EC) (1st Term – Expires January 2022)
blake@desertcreekhoney.com

Patty Sundberg (2nd Term – Expires January 2022)
psundberg@hotmail.com

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jaym@2jfarms.com

Tim Wilbanks (EC) (2nd Term – Expires January 2023)
timwilbanksbees@gmail.com

DIRECTORS REPRESENTING SMALL-SCALE/SIDELINER SIG
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bpinson@msn.com

Kent Pegorsch (2nd Term – Expires January 2023)
(715) 258-0590
kent@pegorsch.com

DIRECTORS REPRESENTING HONEY PRODUCER-PACKER SIG
Jim Belli (2nd Term – Expires January 2022)
jim@belli-belli.com

Debbie Seib (EC) (1st Term – Expires January 2022)
(317) 432-9578
seibshoosierhoney@yahoo.com

DIRECTORS REPRESENTING PACKAGE BEE & QUEEN BREEDERS SIG
David Kelton (2nd Term – Expires January 2023)
honeybees60@gmail.com

Amanda Wooten (2nd Term – Expires January 2022)
amanda@wootensqueensbees.com

DIRECTORS APPOINTED BY THE PRESIDENT
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leeet1444@umn.edu

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**10 YEARS**
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Debbie Seib, IN
James Burzynski, WI
Karri Burzynski, WI
Kamron Koehnen, CA
Heather Achilles, NH
Greg Denker, AZ
Kevin Rader, FL

**25 YEARS**
Vincent Gaglione, MA
William Speer, TX
Steve Godlin, CA
Curt Bronnenberg, IA

**30 YEARS**
Mark Sundberg, MN
Chris Dunham, OH
Shannon Wooten, CA

**35 YEARS**
Donald Rodgers, PA
Horace Bell, FL

**MEMBER MILESTONES**

for October - December 2021
Hello ABF Friends,

It’s time to make your reservations to attend the 2022 ABF Conference & Tradeshow in Las Vegas on January 5-8, 2022. We are looking forward to being able to gather in person this year – we’ve been apart too long! One remark we always hear from conference attendees is how much they enjoy seeing old friends and meeting new ones. To me, the most important thing about ABF is our members. Without the wonderful people who make up the ABF membership, we would not be the powerful group we are today.

We can use the power of our membership to express our concern about the health of honey bees and push for protections for them. Without healthy bees and a healthy environment for them, we won’t have our industry in the future. Along those lines, we can put our membership power behind lobbying for fair honey prices and protecting the U.S. honey market. These are some of the issues your ABF association has been working on for our members.

Our ABF conference addresses all of these issues and more. I think we have one of the best lineups we’ve ever had. Three outstanding keynote speakers headline the event. Dr. Jamie Ellis, University of Florida; Dr. Judy Wu-Smart, University of Nebraska-Lincoln; and Dr. David Tarpy, North Carolina State University will be presenting their latest research.

**Tradeshow**

The tradeshow floor will be filled with vendors who will showcase the latest in beekeeping goods. The ABF is pleased to announce a new program that recognizes beekeeping and honey industry manufacturers and suppliers for outstanding product innovations. The ABF Product of the Year Award recognizes outstanding beekeeping innovations by acknowledging product excellence from beekeeping industry manufacturers and suppliers. Conference attendees will cast ballots at the January conference and the recipient will be announced at the ABF Banquet on Saturday evening.

**Schedule**

The conference will feature 80+ sessions and 40+ speakers covering topics that involve beekeeping, honey production and packing, hobbies and crafts, and much more. Take a look at just a few of the daily offerings.

Wednesday is the kick off to the conference. In addition to Dr. Ellis’ keynote, we’ll hear from the EPA about pesticides, and an update on legislative issues that affect all of us.

On Thursday we’ll get an update on the anti-dumping case from attorney Alan Luberda, Dr. Wu-Smart’s keynote on pesticide pollution, Shared Interest Group (SIG) breakout sessions, and the auxiliary luncheon. And don’t forget to register for the onsite social event at 6:30pm with magician/illusionist Rob Anderson.

South Point Hotel in Las Vegas, Nevada.
Friday is a busy day with Dr. Tarpy’s keynote on queen health, the queen breeding panel, the ABF business meeting and Kids ‘N Bees. The day is topped off with the Honey Show and Live Auction that we all look forward to!

The final day, Saturday, begins with business-focused sessions: a panel discussion on marketing honey in the U.S. at the commercial beekeeper’s breakfast followed by a talk on growing your honey business and knowing how much your honey costs you. Breakout sessions cover hive inspections, varroa mites and mite bites, protein in bee diets, a master beekeeping program, and making homemade cosmetics - just to name a few. And of course, the conference concludes with the ever-popular banquet and live auction and the coronation of the Honey Queen and Princess.

Whew – what a week!

South Point Amenities
And I haven’t even told you about the exceptional facilities at South Point. It far exceeds any casino I have been to in Las Vegas. It has large comfortable meeting rooms, 11 restaurants, a 16-screen movie theater, and a 64-lane bowling alley, just to name a few of the amenities that you and your family will enjoy.

The South Point is recognized as having the nicest indoor equestrian facility in the country and hosts many events in its arena year-round, so you’ll want to check it out. NASCAR fans will love the action on the big screens. If you’re driving to Las Vegas, you’ll be happy to know that there is Free Parking at the South Point!

ABF takes care of our members. We’ve negotiated competitive room rates at the South Point, and we have a block of rooms reserved so book soon – there’s a huge electronics show in town so affordable rooms will be hard to find.

And because it’s Vegas, there are always things to do so you may want to add a few days to your stay. Visit the aquariums, Hoover Dam, adventure tours, theme parks, golf courses, shows – you name it, Vegas has it!

This promises to be one of our best conferences. And it is a bittersweet one for me because it marks the end of my term as president of the American Beekeeping Federation.

I am honored to have represented such a great organization. I can’t say enough about the support that has been offered to me these past two years. My sincere thanks go to the entire ABF Board of Directors who I have had the pleasure to work with as well as the ABF committee chairs and members. Your hard work and dedication helped this organization accomplish its goals over the past two years. I would also like to thank the ABF staff from our management group Meeting Expectations (ME). ME has made the ABF the professional organization it is today. We have thrown many initiatives at this small staff and their hard work and dedication has been outstanding.

I think the ABF is going in the right direction and will continue to be a leader for the industry. The groundwork for the future of ABF has been laid by ALL of the past leadership to continue growing and to provide strength within this industry that we all love. The American Beekeeping Federation is strong, and we will continue to get even stronger!

Joan Gunter
ABF President
American Beekeeping Federation
KONA QUEEN HAWAI

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I’d like to take a few moments to talk a little about Beekeeping Clubs. In my opinion, I’ve always thought it was important to be a member of the clubs where I keep hives. I’m a lifetime member of both the Empire State Honey Producers Association and the Florida State Beekeepers Association. Locally, I am a member of The Finger Lakes Beekeepers Association. On the national level, I am a member of the American Beekeepers Federation. Now I’ll take a little time to explain why…

I am a member of my local club because it lets hobbyist beekeepers get to know commercial beekeepers that are in the area. At the meetings, it gives them a person who understands the industry, allowing them to get quality, educated advice from. In some cases, you can market honey or nucleus hives to some members, to help them along.

Once you’ve been active in beekeeping, the next step is a state level organization. Often state legislators look to the state organizations to help advise on law changes or issues that affect native pollinators or managed pollinators. It’s important for experienced beekeepers to step-up and get involved. This helps the states to make the correct decisions with advice that is science and education based.

As you become more experienced, it’s important to join a national club. As the industry moves forward, eventually bees are hauled interstate. All levels of beekeepers are subject to price increases of equipment and NUCS that arrive from out of state. National laws and trucking prices are very relevant to bee prices. National organizations like American Beekeepers Federation (ABF), American Honey Producers Association (AHPA), Eastern Apiculture Society (EAS), and the Heartland Apiculture Society (HAS) and the Western Apiculture Society (WAS) members all fight imported honey prices that trickle down eventually to the state and local beekeepers honey prices. National organizations lobby to help keep agricultural exemptions and industry related prices down.

I like to tell all beekeepers to get involved. Join a local club, a state club and most importantly, a national level organization, like the ABF. It doesn’t cost much money to join all three. In such a small industry, every beekeeper needs to be involved. So please, stay involved and join a club – Thank you,

Dan Winter
ABF Vice President

“IN SUCH A SMALL INDUSTRY, EVERY BEEKEEPER NEEDS TO BE INVOLVED.”

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GOVERNMENT RELATIONS

by: Fran Boyd

What Is In the “Build Back Better Act for Agriculture and Rural America?”

On the day of the election, people were focused on the outcomes of the governors’ races in Virginia and New Jersey. In Virginia, the Republican candidate was elected replacing a Democratic incumbent and in New Jersey the incumbent Democratic governor was re-elected in a close race. There is now in the media and in Washington an amazing amount of focus and discussion on when Congress will pass the Bi-Partisan Infrastructure Bill and what is going to happen on the Build Back Better Act (BBB)?

The debate continues to go back and forth between the Democrats in the House and Senate (very few if any Republicans are expected to vote for the Budget reconciliation bill that will contain the BBB provisions). As I have said before, I do believe ultimately that the Congress and Senate will pass a $1.7-1.8 trillion Build Back Better bill. The questions that are still unresolved are will it be before Thanksgiving or before Christmas and will it contain such things as paid family leave and immigration? Those questions and others are still not decided, and discussions continue between the Congress and the White House.

One question I have been asked is what is in the BBB legislation that pertains to agriculture, food programs and rural America? After analyzing the existing draft text and released reviews of the BBB by the Agriculture Committees, the USDA and other organizations, the following is what is included in the legislation that will have an impact directly on programs that pertain to agriculture, nutrition, and forestry. Of course, the final details have not yet been decided or available, but this should give you a better idea of what is contained in the legislation.

Conservation and Climate/Agriculture Programs

The bill contains $27 billion to help provide the tools to farmers to assist producers in conservation and climate programs. It is one of the biggest federal investments in conservation programs in many years. The Senate Agriculture Committee estimates it could reach as many as 240,000 farms and 130 million acres of cropland per year. These funds are targeted at expanding conservation practices to safeguard resources and sequester carbon in soil and trees. The legislation will also expand cover cropping practices and nutrient management buffers. It will create public-private partnerships to support locally conservation programs. The legislation increases the focus by the USDA on whole-farm conservation systems and ensures that agricultural land in easements acknowledges climate change while maintaining the viability of the land as farmland.

Research

The legislation provides $2 billion for agricultural research facilities and agricultural climate research; $1 billion is provided for agricultural research facilities at minority-serving Institutions. The bill invests funds in cooperative extension to help farmers and rural communities develop solutions to adapt to climate situations. It also provides funding for scholarship programs at 1,890 historically black land-grant agriculture universities and includes funding for tribal scholarships and multicultural scholarships aimed at rural America.

Child Nutrition

The BBB legislation provides $10 billion in child nutrition programs. The goal of these funds is to provide meals for children throughout the school year and through the summer. The bill provides meals for an estimated 9 million additional children by expanding Community Eligibility for five years. This change will allow eligible schools to serve all children for free, eliminating stigma for students and lessening the administrative burden on schools. In addition, $65 per month is provided for Summer EBT benefits to children for free and reduced-price meals for food over the summer for two years.

The bill will also provide $250 million to fund a “healthy food incentive” pilot program. The purpose of the demonstration program is to improve the nutritional quality of food in school meals. Also included in the legislation is $30 million for improved kitchen equipment so schools can be in a better position to provide children’s meals from scratch.

Debt Relief for Agriculture Farmers and Ranchers

The legislation includes $6 billion in additional funding to increase the support to economically distressed borrowers and underserved agricultural producers. The bill will provide full and partial debt forgiveness on direct loans and will offer loan modification services to USDA direct and guaranteed borrowers.

Rural Development and Clean Energy

$18.3 billion is provided for an investment in rural communities to transition to cleaner energy sources. The bill establishes the Rural Partnership Program which is directed to assist small rural towns and communities to “strengthen their communities and improve their quality of life.” The legislation provides support to rural electric cooperatives to transition to cleaner energy sources. It also provides funding to help farmers and small rural businesses to be more energy efficient and help small towns to upgrade their water and waste systems to increase their efficiency.

Forestry

Included is $27 billion to help restore forests, fight wildfires and sequester carbon in trees. This investment will be in forest health project (both on public and private lands) and provide funding to equip firefighters and rural communities to best confront wildfires. It also creates and funds programs to plant trees in urban communities.

This summary should provide an overview of what agriculture and rural development programs are contained in the Build Back Better legislation when you hear the details of the “bigger” programs and programs from your nightly news and daily newspapers. The other item to focus on is that funding for the federal government programs expires on December 3, so as you are reading this article, we will be under a Continuing Resolution (CR) or some form of Omnibus Funding legislation. I do not anticipate the government shutting down (fingers crossed).
**Q. My honey granulates, but it is not smooth and creamy. How do I make it creamy?**

**A.** Honey is made up of primarily two simple sugars, glucose and fructose. In chemical terms, honey is a super-saturated solution of glucose in fructose, and as such the glucose molecules will attach to a water molecule and form a crystal and then precipitate out of solution, and sink to the bottom of the jar. It is a phenomenon of crystal formation that the first crystal formed is the model, or template, for all the rest of the crystals of glucose that form. Sometimes you get small crystals that make the honey "creamy", and sometimes the crystals are large and sharp on the tongue. Since crystals of the glucose hydrate are formed like the first crystal it is important to have the first crystals small. The easiest way to do this is to start with a jar of honey that already has the small crystals, and use these small crystals to "seed" the honey you want to make into creamed honey, or sometimes called spun honey. The formation of the glucose crystals is somewhat temperature dependent, so keep the honey cool (50-55°F), although the low temperature is not an absolute requirement. Cornell University once had a patent on the process (Dyce Process) but the patent has long been expired. It is recommended that you use about 10% starter (using less just takes longer). You need to process the honey into wide-mouth jars or tubs as the honey needs to be removed with a knife or spoon. It is my favorite form of honey.

Some honeys will not crystalize as they are too high in fructose. For example, Tupelo honey is one that rarely crystallizes as it is very high in fructose, and therefore the glucose is no longer super-saturated and does not precipitate out of the fructose solution. Other honeys, like canola, are just the opposite and often crystallize in the comb before extracting.

**Q. If I have my colonies on a scale will I be able to tell if they are alright during the winter?**

**A.** Yes. A normal colony will use about a pound of honey per week during the colder parts of winter. If it is drastically different from that the colony may be in trouble. The colony maintains a core temperature of about 85-88°F in the first part of winter, and when brood rearing starts the core will jump up to 95°F, and anywhere there is brood the temperature will be 95°F. As brood rearing increases when temperatures begin to rise in late winter the food consumption will increase slightly, and thus the weight will decrease more.

The bees on the outer edges of the cluster are about 45°F. and use very little honey; the bees in the center of the cluster eat honey and vibrate their wing muscles "shiver" which generates the heat necessary to warm the cluster. The bees heat the cluster and not the hive.

**Q. I am considering starting a bee colony. There are packages of bees and nucs. What is the best way to start?**

**A.** In my opinion a first-time beekeeper should start with a package, and I will try to tell you why I think a package is the best way to start for a beginner.

When you start with a package on new equipment and foundation you really get to see a colony develop with all the basics of the honey bee colony, from drawing out the beeswax cells, storing honey, and the whole development of the broodnest of a colony, from egg laying to storing of honey. Everything starts from the beginning and you really get to see the colony grow. When I was teaching Apiculture at MSU I had the students plot on graph paper each of these conditions to see graphically how the colony grows. With a Nuc you will get faster development as you have drawn combs and emerging young bees to push the colony along faster. But I think the package of bees shows the fundamental parts of the colony and their growth better, and for the beginner the package is the better teacher.

**Q. I have been told that my colony needs an upper entrance. Why? Doesn’t that expose the hive to loss of heat?**

**A.** First, a honey bee colony does not heat the inside of the hive, only by incidental loss from the edge of the cluster. I have had temperature probes two inches from the edge of a winter cluster and the temperature was the same as the outside temperature.

In a winter cluster the bees eat honey and vibrate their muscles to generate the heat to keep the bees from freezing. The fundamental equation is Honey + Heat + H2O + CO2 . The problem comes with the water and carbon dioxide on the right-hand side of the equation. The CO2 being heavier sinks to the bottom and exits the hive. The water vapor is the problem as it will rise to the top of the hive and, if there is no exit, will condense on the inner cover and drop down on the cluster and may cause it to freeze. Therefore, the need for an upper entrance is to allow the moisture to escape. Langstroth, in his book the Hive and Honey-Bee, suggests putting a wedge under the inner cover to let the moisture escape. I took the suggestion and made winter wedges for my colonies. The wedge goes from 3/4 inch to zero and keeps the inner cover open for the ¾ inch width of the wood, but the opening is still covered by the edge of the outer cover.

I put them on my colonies each fall. They allow the moisture to escape and also give the colony an upper entrance, that is wind protected, for flight, if the bottom entrance is blocked with snow.

To quote from Langstroth’s Hive and Honey-Bee, again, "If the colony is strong in numbers and stores, have upward ventilation, easy communication between combs, water as needed—and the hive entrances are shielded from the piercing winds, they have all the conditions essential for wintering in the open air."
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.

Don't see your state meeting listed?
Contact your state beekeeping organization. State Delegates may submit state-level meetings by emailing us at info@abfnet.org.

Bi-monthly meetings of the American Beekeeping Federation State Delegates Assembly have been scheduled into the last half of 2021. Our July meeting, held with 27 State Delegates from 13 states, started with introductions of our ABF President, Vice-President, and the two State Delegate Board members. We reviewed the list of states that are lacking the required number of delegates and those that have no delegates.

If you would like to serve as a state delegate from one of the above states, contact your state association and have your name submitted to Debbie Seib at seibshoosierhoney@yahoo.com with the Subject: State Delegate or call 317-432-9578. We will send you Roles and Responsibilities.

Our newest state delegates are:

- Bill Hesbach - Connecticut
- Bo Sterk - Florida
- Bill Crawford – Massachusetts
- Tara Hahn – New York
- Kevin Kennedy – Rhode Island
- Catherine Jean Wissner - Wyoming
- Scott Johnson – Wyoming

The State Delegates luncheon will be on Wednesday, January 5th at the ABF Conference. Our current board members and their terms are listed below. If you are a State Delegate and interested in running for a position on the board, send your name to Debbie Seib at seibshoosierhoney@yahoo.com Subject: State Delegate Elections

- Black Shook – Expires 2022, 1st Term
- Patty Sundberg - Expires 2022, 2nd Term
- Robert Duffy – Expires 2023, 1st Term
- Warren Nelson – Expires 2023, 2nd Term

Our meetings are the second Tuesday bi-monthly at 8:00 pm EST.

Debbie Seib, Chairman
State Delegates Assembly
American Beekeeping Federation
The world beekeeping community lost a great scientist, educator, advocate, and an all around wonderful man with the passing of Dr. Roger Hoopingarner on November 6, 2021. Roger spent 65 years of his life doing what he truly loved, working with and conducting research on honey bees and educating others about the intricacies of this amazing creature.

Roger was a Professor Emeritus of Entomology at Michigan State University and was undoubtedly one of the foremost apicultural researchers in the world. In retirement he continued teaching about the biology and management of the honey bee traveling the nation and world consulting and speaking at beekeeping conferences and universities. His teaching, Cooperative Extension, and research interests in the biology and management of the honey bee include seminal work in pollination of orchard crops. He has been the author, co-author or cited in hundreds of research articles, books, and journal articles on bee diseases, varroa mite population dynamics and control, pollination systems, and many more apiculture related topics. He was also an international speaker on all things honey bee.

When the Varroa destructor mites arrived in North America and began to destroy bee colonies, Dr. Hoopingarner worked with Dr. John Harbo at the USDA’s Honey Bee Laboratory in Baton Rouge to develop a line of bees resistant to the Varroa mite. They called that line of bees Suppressed Mite Reproduction (SMR). The line is still around today and has since been renamed. We know it today as the Varroa Sensitive Hygiene (VHS) line of bees.

The list of students and beekeepers that Dr. Hoopingarner has taught, trained and mentored over the years is voluminous. Some of the standouts include Gloria DeGrandi-Hoffman, Dr. Gordon Wardell, and Dr. Larry Connor.

Roger was a long time member of the American Beekeeping Federation and also served on the ABF Board of Directors, Chaired the Education Committee, and hosted a question and answer column in the ABF News and ABF Quarterly appropriately titled, “Ask Hoopie.” In 2013 he received the American Beekeeping Federation “President’s Award” for outstanding and significant contributions to the leadership of the ABF and the U.S. beekeeping and honey industry.

Several years ago, Dr. Hoopingarner approached Pat Heitkam, who was ABF President at the time, and suggested that the ABF somehow recognize the scientist who delivered the best scientific presentation at the annual conference. The award would be decided by a vote of conference attendees. Thus the American Beekeeping Federation established the “Hoopingarner Award” in 2004 and it continues to be awarded annually in memory of Dr. Roger Hoopingarner, a true legend in the beekeeping world.
Albert Einstein is quoted to have said “If the bee disappeared off the face of the Earth, man would only have four years left to live.”

Bees are vital for the preservation of ecological balance and biodiversity in nature. The Western honey bee (Apis mellifera) provides one of the most pivotal of ecosystem services, pollination, and makes food production possible. The annual global production of food that depends directly on pollination is worth between $235 and $577 billion. A third of the world’s food production depends on bees, i.e. every third spoonful of food depends on pollination.

Unfortunately, the future of bees and the future of dependent agricultural economies are in jeopardy. The greatest single contributor to the decline of honey bee health is the Varroa destructor mite. Varroa is an ectoparasitic mite that exploits the honey bee’s lifecycle. A single Varroa can shorten the lifespan of a bee by one-third, and two mites can shorten it by one-half. It feeds on the fat bodies of developing larvae and adult bees and aggressively reproduces within an infected colony. By weakening and ultimately killing colonies by out-reproducing their host, Varroa is a primary cause of colony collapse disorder. Furthermore, Varroa facilitates the transmission of multiple viruses, including Deformed Wing Virus (DWV), and other diseases which may lead to honey bee mortality.

To control the spread of Varroa, beekeepers initially used acaricides, pyrethroids, and organophosphates pesticides. Unfortunately, these chemicals have been found to increase the early replacement of the queen, heighten mortality in adults and brood, reduce body weight in queens, decrease the amount of lipids, carbohydrates and proteins in workers. Furthermore, these compounds have also been found to accumulate in the beeswax which impacts the development of bee larvae. The frequent use of these synthetic miticides to control Varroa has resulted in the development of resistance to many of the chemical components of these miticides.

Likewise, the excessive or improper use of synthetic compounds has also resulted in the contamination of hive products which pose a health risk to both bees and human consumers.

Another major threat to colony health is American Foulbrood (AFB); a transmissible and lethal bacterial disease of honey bee brood that is found worldwide. AFB is caused by the spore forming bacterium Paenibacillus larvae. Infections affect most of the brood, severely weakening the colony and eventually killing it. Although AFB is not highly contagious, bacterial spores can easily be spread between hives and apiaries through the exchange of equipment and movement of infected combs. Adult bees are not affected by AFB but can spread spores within and between infected and clean hives through robbing and drifting. AFB spores can remain viable for over 50 years and are resistant to freezing and high temperatures.

Within a colony, spores are spread by nurse bees performing in-hive tasks, such as cleaning and the feeding of young larvae with spore-contaminated food. Billions of spores are produced in the dying larvae. Furthermore, in the nurse bees attempt to clean away the diseased pupae, they become carriers for the disease and further infect new young larvae when they feed them. The traditional control measure for American Foul brood is to exterminate all bees in an infected colony by burning all dead bees and hive materials, particularly the wax comb.

Specifically, to combat Varroa and AFB, researchers have been studying the instinctive hygienic behavior of bees. Hygienic behavior is the detection, uncapping, and removal of disease-infected brood from the hive. It is most commonly observed in worker bees aged 15 to 20 days. Bees with this recessive trait are able to detect and physically remove disease-infected brood from the colony. Hygienic bees have been shown to have an acute sense of smell for the odor of diseased brood. Since they are able to detect and remove diseased brood before the human eye can detect any sign of disease symptoms, it prevents the disease from spreading throughout the colony.

Hygienic behavior against Varroa and AFB is an important defense that bees have during the long period in winter when there is no brood nest. Colonies with a high frequency of hygienic behaviors can reduce the weakening and mortality of worker bees during winter before the new reproductive season begins.

Selective breeding for the naturally occurring social immune trait of hygienic behavior has emerged as an sustainable approach in beekeeping.

Accumulating evidence also suggests the importance of the gut microbiota of bees for overall honey bee health. The bee microbiota is responsible for converting dietary compounds in the gut, enhancing sucrose responsiveness, and stimulating the immune system. The type and amount of nutrients (pollen and nectar) available during the foraging season also influences the composition of the gut microbiota. During spring, summer, and autumn, young worker (nurse) bees stay inside the hive to care for larvae and feed on nutrient-rich pollen, whereas older worker bees become foragers that feed on nectar and honey to fuel their energy-expensive flights.

In late autumn, newly emerged adult worker bees become winter bees with an extended lifespan (~6 months) to help ensure colony survival during the cold winter season. These bees are responsible for thermoregulation inside the hive and feed strictly on food stores (pollen, beebread, and honey) as well as retain their feces all winter which affects their gut microbiota. Researchers are currently investigating the gut microbiota of winter bees to understand the physiological adaptations of honey bees to survive the winter season.
influencing the health status of winter bees; including hygienic behavior and the gut microbiota, the effects of Varroa and AFB may one day be alleviated by helping honey bees help themselves. In the end, whether it is survival or extermination, the health of honey bees will have profound consequences, from flower to farmer to fork.

Works Cited
2 World Bee Day (2020). The Importance of Bees. Available at: https://www.worldbeeday.org/en/about/the-importance-of-bees.html
8. Snyder R. American Foulbrood (ABF). Available at: https://beenformed.org/2013/10/21/american-foulbrood-abf/

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- And the 2022 American Honey Show!

Optional Activities

- Auxiliary Luncheon and Business Meeting *
- Thursday Night Social with Dinner and Illusionist Rob Anderson
- Foundation for the Preservation of Honey Bees Luncheon *
- Commercial Beekeeping Breakfast and Meeting
- ABF Banquet *

*Separate registration required. Additional fee applies.

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and entertainment at the property, including the movie theater, bowling alley, and more!


Alternatively, reservations can be made by calling the hotel directly at 866-791-7626. Be sure to request the ABF or beekeepers room block.

**Deadline:** The discounted group rate is available until Monday, December 13, 2021, or until the room block is full (whichever comes first). After this date, the discounted group rate may no longer be available.

**Guest Room Reservations Warning:** On occasion, a “housing company” may contact potential conference attendees and advise them that the conference hotel is almost sold-out and that they need to make their hotel reservations at that time. This is not accurate! No one should or will be calling you to make your hotel reservations. All reservations must be made directly with the hotel via telephone or online link.

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There are hundreds (probably thousands) of things to do in Las Vegas. It’s one of the world’s most exciting and iconic travel destinations. Make your trip to ABF into a vacation. Here are just a few ideas to get you “going.”

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Hoover Dam
Cowboy Trail Rides

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Nascar Racing Experience
The Shelby Heritage Center
Hollywood Cars Museum
Vegas Indoor Skydiving

Family Fun
Adventuredome Theme Park
Hershey’s Chocolate World
Shark Reef Aquarium
Marvel's Avengers S.T.A.T.I.O.N.
Topgolf

Museums
Madame Tussauds Las Vegas
Bellagio Museum of Fine Art
The Shelby Heritage Center
Titanic: The Artifact Exhibition
Howard W Cannon Aviation Museum

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Miracle Mile Shops
Grand Canal Shoppes at Venetian / Palazzo
Las Vegas South Premium Outlets
Free Attractions on The Strip

Marriage?
Elvis Chapel

More ideas! https://www.lvcva.com/

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• Conference Info: https://bit.ly/ABFConferenceInfo
• Book your hotel room: https://bit.ly/ABFHotel
• Join or Renew ABF membership! https://www.abfnet.org/page/membership
Conference Registration

Cancellation Policy

Registration cancellations received in writing on or prior to 12/14/2019 will be refunded minus a $50 administrative fee. Registration cancellations received after 12/14/2019 will not be refunded.

PLEASE NOTE:

All paid, non-member registrants will receive a one-year, small-scale membership to the American Beekeeping Federation, to be processed following the conference in late January 2022. You will be notified once your membership has been activated.

All rates are in U.S. dollars.

<table>
<thead>
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<th>All rates are in U.S. dollars.</th>
<th>EARLY through 11/23/2021</th>
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<tr>
<td>Student and Educator**</td>
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* Family is defined as two adults and any children living in the same household.
** Students and Educators will be required to show valid school ID at the conference.
## Agenda & Presenters

### WEDNESDAY, JANUARY 5, 2022

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<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:00 am – 10:00 am</td>
<td>General Session</td>
</tr>
<tr>
<td></td>
<td>Keynote - Towards Sustainable Beekeeping - Dr. Jamie Ellis</td>
</tr>
<tr>
<td>10:30 am – 12:00 pm</td>
<td>General Session</td>
</tr>
<tr>
<td></td>
<td>USDA Update</td>
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<tr>
<td>12:00 pm – 1:30 pm</td>
<td>State Delegates Assembly Lunch</td>
</tr>
<tr>
<td>1:30 pm – 2:30 pm</td>
<td>General Session</td>
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<tr>
<td></td>
<td>Report from the Foundation of the Preservation of Honey Bees &amp; Introduction of Foundation Scholars</td>
</tr>
<tr>
<td>3:00 pm – 4:30 pm</td>
<td>General Session</td>
</tr>
<tr>
<td></td>
<td>Research from California, Randy Oliver</td>
</tr>
<tr>
<td>6:00 pm – 8:00 pm</td>
<td>Welcome Reception on the Tradeshow Floor</td>
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<td>Beekeeping Brain Buster Entertainment &amp; Live Auction</td>
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</table>

### THURSDAY, JANUARY 6, 2022

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:00 am – 10:05 am</td>
<td>General Session</td>
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<tr>
<td></td>
<td>Keynote - Investigating Persistent Beekills from Systemic Pesticide Pollution and Implications to Beekeepers - Dr. Judy Wu-Smart</td>
</tr>
<tr>
<td>10:30 am – 12:00 pm</td>
<td>General Session</td>
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<tr>
<td></td>
<td>Anti-dumping Case Update - Alan Luberda, Kelley &amp; Drye</td>
</tr>
<tr>
<td>12:00 pm – 1:30 pm</td>
<td>Auxiliary Luncheon</td>
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<tr>
<td>1:00 pm – 4:00 pm</td>
<td>Commercial Beekeepers Hospitality Suite - Hosted by Mann Lake</td>
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<tr>
<td>1:30 pm – 3:30 pm</td>
<td>Small Scale/Sideler Shared Interest Group (SIG) Meeting</td>
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<tr>
<td></td>
<td>The Heart of the Hive: Developing and Maintaining a Sustainable Queen Breeding Program - Melanie M. Kirby</td>
</tr>
<tr>
<td>1:30 pm – 3:30 pm</td>
<td>Package Bee &amp; Queen Breeders Shared Interest Group (SIG) Meeting</td>
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</table>
## Agenda & Presenters

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>1:30 pm – 3:30 pm</td>
<td>Commercial Shared Interest Group (SIG) Meeting</td>
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<tr>
<td>1:30 pm – 3:30 pm</td>
<td>Fork in the Road: Colony Fitness and Pathogen Loads Across Migration Routes to Almond Orchards - Zack Bateson</td>
</tr>
<tr>
<td>1:30 pm – 3:30 pm</td>
<td>Shipping Queen Cells - Ellen Topitzhofer</td>
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<tr>
<td>1:30 pm – 3:30 pm</td>
<td>Honey Producer-Packer Shared Interest Group (SIG) Meeting</td>
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<tr>
<td>1:30 pm – 3:30 pm</td>
<td>Strategy, Risk &amp; Reward: Finding What Works and What Doesn't When Diversifying Your Honey Business - John Walker</td>
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<tr>
<td>1:30 pm – 3:30 pm</td>
<td>Producing &amp; Packing to the Next Level - Debbie Seib</td>
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<tr>
<td>4:00 pm – 5:00 pm</td>
<td>General Session</td>
</tr>
<tr>
<td>4:00 pm – 5:00 pm</td>
<td>Which Way Forward for Managed Pollinator Protection Plans (MP3s) and IPM4Bees - Ana Heck and Randall Paul Cass</td>
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<tr>
<td>6:30 pm – 9:30 pm</td>
<td>Social Event with Illusionist Rob Anderson</td>
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### FRIDAY JANUARY 7, 2022

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:30 pm – 10:00 am</td>
<td>General Session</td>
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<tr>
<td>8:30 pm – 10:00 am</td>
<td>Keynote - What's Going on with Queens - Dr. David R. Tarpy</td>
</tr>
<tr>
<td>8:30 pm – 10:00 am</td>
<td>Kids and Bees - Sarah Red-Laird</td>
</tr>
<tr>
<td>10:30 am – 12:00 pm</td>
<td>General Session</td>
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<tr>
<td>10:30 am – 12:00 pm</td>
<td>Applied Research at the USDA Bee Research Lab, Beltsville - Steven Cook</td>
</tr>
<tr>
<td>10:30 am – 12:00 pm</td>
<td>Neonicotinoid Seed Treatments in U.S. Field Crops - Scott McArt</td>
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<tr>
<td>12:00 pm – 1:30 pm</td>
<td>Foundation Luncheon</td>
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<tr>
<td>1:00 pm – 4:00 pm</td>
<td>Commercial Beekeeping Hospitality Suite - Hosted by CKP Insurance, Kevin Rader</td>
</tr>
<tr>
<td>1:30 pm – 2:30 pm</td>
<td>General Session</td>
</tr>
<tr>
<td>1:30 pm – 2:30 pm</td>
<td>Your Concerns are Our Concerns: Queen Breeding in Today's Beekeeping Environment - Russell Heitkam, Patrick Wilbanks, Kelly O'Day</td>
</tr>
<tr>
<td>3:00 pm – 4:00 pm</td>
<td>General Session</td>
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<tr>
<td>3:00 pm – 4:00 pm</td>
<td>The Effects of Pesticides on Honey Bees Panel (Presentation with Q &amp; A)</td>
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<tr>
<td>4:00 pm – 7:00 pm</td>
<td>ABF Business Meeting, American Honey Show Reception &amp; Live Auction</td>
</tr>
</tbody>
</table>
# Agenda & Presenters

## SATURDAY JANUARY 8, 2022

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<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:30 am – 10:00 am</td>
<td>Commercial Beekeepers Breakfast &amp; Meeting.</td>
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<tr>
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<td>&quot;Marketing Honey in the U.S. Panel Discussion&quot; with Nancy Burnett, Jill Clark, Mark Mammen, and Blake Shook. Moderator: Dan Winter</td>
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<tr>
<td>8:30 am – 9:30 am</td>
<td>Breakout Sessions</td>
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<tr>
<td></td>
<td>Growing your Honey Business, Marketing Strategies &amp; Examples - Frank Moriarty</td>
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<td></td>
<td>Honey Bee Nutrition: What We know and What We Need to Know - Ramesh Sagili</td>
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<td></td>
<td>Detroit is the Place to Bee! - Nicole Lindsey and Timothy Paule Jackson</td>
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<td>How Much Does Your Honey Cost You? - Jeremy Margaron</td>
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<td>Comb Honey Production - Matthew Sanchez</td>
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<tr>
<td>10:30 am – 12:00 pm</td>
<td>Breakout Sessions</td>
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<tr>
<td></td>
<td>Building Stability and Sustainability into your Apiary - Frank Licata</td>
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<tr>
<td></td>
<td>Preparing Homemade Cosmetic Products for Market - Alyssa Fine</td>
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<td></td>
<td>Gearing Up for Commercial Success - Buzz Landon, Calynn Combs, and Charles Linder. Moderator: Tim Wilbanks</td>
</tr>
<tr>
<td>12:00 pm – 1:30 pm</td>
<td>Lunch</td>
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<tr>
<td>1:30 pm – 2:30 pm</td>
<td>Breakout Sessions</td>
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<td></td>
<td>Varroa Mite Biology &amp; Management - Katie Lee</td>
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<td></td>
<td>Before and After the Sting - Jim Berndt</td>
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<td>Raising Honeybees as a Supplemental Cash Crop - Bill Spurlin</td>
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<td>Mite Bites on Workers Explodes After Drone Production Creases - Zachary Lamas</td>
</tr>
<tr>
<td>1:30 pm – 3:30 pm</td>
<td>ABF Board of Directors Meeting</td>
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<tr>
<td>2:45 pm – 3:45 pm</td>
<td>Breakout Sessions</td>
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<tr>
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<td>Open Books: What it Takes to Bee Successful - Chris Moore</td>
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<td>Protein in the Honey Bee Diet - Jim Berndt</td>
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<td>Accessible, Purposeful, Science-Based: The New Online UF/IFAS Master Beekeeper Program - Mary Bammer</td>
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<td></td>
<td>Effects of Beekeeper-Applied Pesticides on the Reproductive Health of Honey Bees (Apis mellifera) Queen Physiology, Gene Expression and Behavior - Juliana Rangel</td>
</tr>
<tr>
<td>6:00 pm – 9:30 pm</td>
<td>ABF Reception and Banquet with Live Auction and the Coronation of the 2022 American Honey Queen &amp; Princess</td>
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</table>
WHY BEEKEEPERS NEED TO PROTECT BEES FROM PESTICIDES

by: Michele Colopy
Beekeepers value their relationships with agricultural producers and continually seek to maintain this vitally important connection for the sustainability of agriculture be it conventional, organic, or urban beekeeping. Unfortunately, too many agricultural producers and property owners are unaware of the hazards of pesticides, allowing the long-term chemical contamination of farmland, wild lands, waterways, and the ecosystem.

Research in Nature GeoScience, March of 2021, examined the “Risk of pesticide pollution at the global scale,” concluded pesticides are becoming “ubiquitous environmental pollutants, causing adverse effects on water quality, biodiversity and human health.” Sixty-four percent of “global agricultural land is at risk of pesticide pollution by more than one active ingredient, and 31% is at high risk.”

This research examined the environmental risks of the 92 “most used” active ingredients found in 59 herbicides, 21 insecticides, and 19 fungicides for their ecological risks to soil, surface water, ground water, and atmosphere. “Although protecting food production is essential for human development, reducing pesticide pollution is equivalently crucial to protect the biodiversity that maintains soil health and functions, contributing towards food security.”

Peer reviewed research across more than 20 years has shown us the damage being caused to honey bees, native pollinators, soil sustainability, water quality, and beekeeping by the “poster child” of pesticides: neonicotinoids.

The impact upon honey bees by neonicotinoid pesticides results in:

- A 24% decline in overwintering success of honey bee colonies
- Natural forage areas contaminated with bee toxic pesticides
- Reduced flight capacity in honey bees, decreasing food-collecting ability
- Impaired basic motor coordination of honey bees
- Toxic levels found in surface water after rain events, in wetlands, and in snowmelt killing invertebrates (A bee colony can use up to three gallons of water daily and be harmed by toxins in water.)
- Forage containing contaminated pollen and nectar in the hive leading to sub-lethal levels of toxins fed to honey bee larvae, and contaminating the beeswax
- Reduced reproductive capability in queens and drones
- Contaminated soil, water, and plant products which translocate into the pollen and nectar
- Synergism with other pesticides increasing the toxicity levels of herbicides, fertilizers, fungicides, adjuvants, and surfactants in the pesticide tank mix
- Wildflower contamination. 97% of neonicotinoids brought to the hive were collected from wildflowers, not crops, showing the drift through the soil, water, and air of these pesticides into natural forage areas
- Decreased immunocompetence of honey bees leading to impaired disease resistance
- The spread and abundance of pathogens and parasites among honey bees due to weakened immune systems

In January of this year Mead, Nebraska found itself to be at the center of the pesticide toxicity debate when neonicotinoid coated seeds were burned to make ethanol, and a mash/residue product was placed into lagoons. (https://www.theguardian.com/us-news/2021/jan/10/mead-nebraska-ethanol-plant-pollution-danger) The residents of the community reported a “stench of rotting, eye and throat irritation and nosebleeds, dying bees, birds and butterflies were disoriented, pet dogs were ill-staggering about with dilated pupils.” The waste product was too toxic to use as animal feed, and the resultant green mash being used as a “soil conditioner,” was polluting the water. Burning these seeds did not eradicate the pesticide ingredients.

<table>
<thead>
<tr>
<th>EPA safe level of Parts Per Billion</th>
<th>At the Mead, Neb. ethanol plant</th>
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</thead>
<tbody>
<tr>
<td>Clothianidin 11 PPB</td>
<td>427,000 PPB</td>
</tr>
<tr>
<td>Thiamethoxam 17.5 PPB</td>
<td>85,100 PPB</td>
</tr>
<tr>
<td>Imidacloprid 0.358 PPB</td>
<td>312 PPB</td>
</tr>
</tbody>
</table>

It is imperative we work to save the biodiversity of all ecosystems linked to our vital food web. Research indicates that wild bees are at particular risk from insecticide applications at different times than managed pollinators. (Park, Mia, 2015) Wild pollinators are most affected by pesticides after plant bloom periods, as they continue to forage in and around pesticide-treated areas after managed colonies have been removed. Rundolf et al. (2015) reports that pesticide coated seed plantings reduce wild bee density, solitary bee nesting, andumble bee colony growth and reproduction under field conditions.

Beekeepers and their honey bees in urban, non-agricultural areas are not safe from pesticides. LEAD for Pollinators has been part of the Massquito Coalition (https://www.nofamass.org/massquito/) focusing upon the impact of mosquito “control” pesticides in Massachusetts.

To manage the impact of mosquito borne diseases requires science-based decision making, increased funding for mosquito monitoring and surveillance, and improved transparency and accountability. The Massquito Coalition has worked to educate agencies and policy makers about the products and processes they have implemented:

- Products containing synthetic pyrethroids are not natural, they are synthetic chemical formulations that also contain other or “inert” ingredients. Neither Massachusetts agencies nor the Environmental Protection Agency test the health or environmental impacts of mixtures of active and inert chemical ingredients.
- Sumpithrin™ can result in lung irritation, and has been documented to cause asthmatic responses in those exposed.
- Piperonyl-butoxide, a synergist intended to magnify the toxicity of synthetic pyrethroids, has not been tested in combination with these active ingredients, and is considered a possible human carcinogen by EPA.
- Ultra Low-Volume (ULV) applications of Resmethrin™ have been found to kill pollinators, particularly adult and larval monarch butterflies, of which Eastern monarch populations have declined by 80% since the 1990s.
- Bird populations have also declined by thirty percent since 1970, and scientists point to pesticides as a potential driver.
- Most ULV mosquito pesticides will not make contact with a target mosquito; the remaining pesticide will run-off into the environment and contaminate groundwater and local waterways.

As long-term bee health continues to suffer, along with the inability to reproduce sufficiently, compounded with the issue of more bees dying every winter due to sub-lethal levels of pesticides, crop yield and ecosystems will also suffer.

How Can Beekeepers Help Their Honey Bees, Native Pollinators, and Restore Bio-Diversity?

- Change your comb/frames at least every three years to remove pesticide contaminated wax
- Reduce pesticide use around your own hives
- Read pesticide labels and do NOT apply or allow any pesticide to drift onto bee forage & water
- Support beneficial insects for pest control
- Educate family, friends, neighbors to reduce and cease pesticide use, including lawn chemicals
- Remove standing water where mosquitoes breed, so mosquito control pesticide use is reduced, and mosquito borne diseases are prevented
- Plant for pollinators and support biodiversity
References:
Imidacloprid http://npic.orst.edu/factsheets/imidagen.html
Glyphosate perturbs the gut microbiota of honey bees, Erick V. S. Motta, Kasie Raymann, and Nancy A. Moran, PNAS October 9, 2018 115 (41) 10305-10310; first published September 24, 2018 https://doi.org/10.1073/pnas.1803880115, https://www.pnas.org/content/115/41/10305
Read the Label First: Protect Your Garden by the EPA https://www.epa.gov/sites/production/files/2016-02/documents/garden.pdf

EDUCATION FOR BEEKEEPERS – ON DEMAND

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COVER CROPS
ALMONDS & BEYOND
by: Dewey M. Caron, PhD
Cover crops, typically planted in early fall, deliver a host of agricultural and conservation benefits. Though some growers have gone away from planting them due to technical challenges and extra costs associated with the practice, they are coming back into vogue. SARE defines a cover crop as: “…. a plant that is used primarily to slow erosion, improve soil health, enhance water availability, smother weeds, help control pests and diseases, increase biodiversity and bring a host of other benefits to your farm.” (https://www.sare.org/resources/cover-crops/). Note: This website has some interviews of farmers, primarily in the North Central region of the US, on their incorporating cover crops into a host of other crops.

One of those “other” benefits can be to improve pollinator health. As one of the 4 P’s stressing honey bees (pests, pathogens, pesticides), poor nutrition improvement can be a common solution to the three other P’s. Colonies provided adequate nutrition have lower pathogen loads and higher overwinter survival over those supplemented with protein feeds. (DeGrandi-Hoffman, G., et al. 2016. Honey bee colonies provided with natural forage have lower pathogen loads and higher overwinter survival than those fed protein supplements. Apidologie https://hal.archives-ouvertes.fr/hal-01356114 )

In California there is a noticeable increase in number of orchards with a cover crop between rows; depending upon rains (or lack thereof) they can provide flowering plants (yellow mustards likely) that your bees might have visited pre- and during bloom. If they bloom in sync with almonds, they will increase the smorgasbord of pollens bees MUST have to meet their dietary needs and they will enhance the use of pollen supplements provided to colonies.

Some of the cover crops will continue on to flower post-bloom benefiting honey bees left in California awaiting transport before movement elsewhere. That bloom is especially import for native solitary bees who assist honey bees in almond pollination.

It is in the best interest that as beekeepers we stay informed with what is happening where we locate our pollinating bees. As ownership changes and distance increases, this is difficult. Communication can help our bees better serve the growers needs and interests. And they in turn help to avoid unnecessarily stressing our bees. One of those changing situations in almonds, and in other cropping systems, is cover cropping changes.

Almond growers have a number of great resources from the Almond Board including an informative Honey Bee Pest Management for California Almonds brochure (ALM_189395_HBBrochure_ForWebsite_8_5x11_F5). An additional new resource is a free educational series on cover cropping. It was developed in fall 2020 during the pandemic and undated in the spring of 2021 by Kamyar Aram, University of California Cooperative Extension (UCCE) specialty crops advisor for two east Bay counties, Contra Costa and Alameda, and Rob Bennatton, UCCE Bay Area urban agriculture and food systems advisor in partnership with the Contra Costa County Resource Conservation District. Funding was through a Specialty Crops Block Grant from the California Department of Food and Agriculture. The series is available for viewing at http://ucanr.edu/CoverCropsCoCo

“Each video, whether it’s an online webinar or a virtual site visit, emphasizes different aspects of cover crop technology. The titles are designed to help viewers find the resources they are most likely to benefit from,” said Aram. “There really is something for everyone.”

Although designed for growers ( almonds and other specialty crops) seeking to help growers overcome their hesitations about adopting cover crop practice, at least a couple of the webinars can help beekeepers understand cover crops better. The series consists of 10 webinars and five virtual farm-site visits. The opening webinar features Billy Synk of Seeds for Bees (Project Apis m). Billy covers the efforts to promote cover crops by Project Apis m. and the Almond Board of California. NOTE: As I sent this off to ABF my November Bee Culture arrived – article by Billy Synk (page 32-33) has some additional information on why beekeepers need to know about cover crops.

An especially useful virtual farm visit is with Chris Rishwain of J&R Ranches in Manteca, CA. Chris has used a cover crop now for three years. He initially used the mustard (early blooming) mix but has switched to a soil building mix that includes legumes as well as mustards. He received financial assistance from the Seeds for Bees program of Project Apis m. He explains the benefits he has seen in this short time. Included are:

- Less dust at harvest
- More beneficial insects and more local native bees (especially noted following bloom)
- Better water retention
- Less weed pressure
- Help in decomposition with mummies
- More earthworm castings (soil benefit).

Chris indicates the cover crop has not interfered with either his winter tree pruning/tree care nor with movement of his equipment through the orchard post-bloom (pesticide applications and other maintenance). He has found drilling seeds more beneficial and the video features a contractor who explains this approach. Microbes are added to the seeds at planting for better germination. To achieve synchronous bloom with almond flowering depends on when rains occur unless there is supplemental irrigation added.

Cover crops can help bees in almonds and many other crops. It would be a good discussion to have with your grower, be it almonds or other pollination rentals you are performing.

A pollinator mix of cover crops sprouts on an almond orchard floor at J&R Ranches in Manteca. Photo by Kamyar Aram
CONSUMERS LOVE WATCHING OUR

CELEBRATING BEEKEEPING VIDEOS SERIES

Consumers love stories about honey bees and beekeepers just as much as they love to eat the pure, delicious honey they produce. That’s why the National Honey Board (NHB) launched a YouTube advertising campaign as part of its Celebrating Beekeeping program, sharing the stories of beekeepers across the nation. So far, the campaign has generated a jaw-dropping 37 million views, proving how great stories about beekeepers really resonate with honey lovers and everyone who cares about sustainability.

The NHB knows the art and craft of beekeeping is a true labor of love and has a passion for telling the stories of our hard-working beekeepers. As stewards of the bees and land they keep, U.S. beekeepers deliver Mother Nature’s sweetener at its best, while having a positive impact on sustainability, pollination and our food supply.

The NHB launched its Celebrating Beekeeping video series in 2019. In 2021, additional short-form videos were created to focus specifically on the pollination work of honey bees, and were added to accompany the existing videos in the YouTube ad campaign. The 30-second videos give viewers of all ages a glimpse into the lives of real American beekeepers, who are transforming their communities with managed pollination and contributing to 35 percent of the world’s food supply. Topics include the impact of pollination, the importance of sustainability and the rewards of beekeeping.

https://www.youtube.com/watch?v=CkLxBOA-3i4

Even celebrities are embracing the power of how bees and beekeeping can change the world. Angelina Jolie was recently featured in a video with Vogue magazine sharing her journey learning about the art of beekeeping.

The NHB’s library of videos about the lives and contributions of beekeepers is free and available to everyone! Here are a few ideas on fun ways you can use and share the videos:

• Use the NHB videos as an educational tool to share with your customers and community. The Celebrating Beekeeping videos feature multiple topics and industry professionals that make learning about honey bees and beekeeping exciting and fun!
• Share the NHB videos on your social media accounts. Videos are great conversation starters on social media! Feel free to feature the videos on your personal or business social media accounts, or repost content from The National Honey Board.
• Check out the full-length videos on YouTube. Longer videos discuss beekeeping in more detail and are perfect for sharing via email to customers or in a newsletter to an organization you are affiliated with. Visit the NHB’s YouTube channel to view the full series.

If you know someone whose story should be told, please send an email to honey@nhb.org. The video series will continue to grow with more opportunities for storytelling about honey bees and beekeepers.
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Committee Report

by: Anna Kettlewell, American Honey Queen Program Chair

Annually, at the American Honey Queen and Princess training session, the Queens and the Committee members develop professional and personal goals for the Queens. For 2021, these have been quite different, as we navigated a promotional landscape that had many twists and turns, ups and downs, and some return to traditional events. Throughout the year, the Queens have massaged and reshaped their goals to meet the challenges of the second year of the global pandemic.

During the Queens’ six-month reviews in late June, we reconceptualized their goals for the year. Below is the progress report on Jennifer’s and Virginia’s performances as of late September based on the below goals.

Jennifer’s Goals & Results to Date
1. CREATE AND EDIT A VIDEO SERIES RELATED TO COOKING WITH HONEY.
   As of September 26, Jennifer has published two of these videos, has one in the editing states, and will finalize one more to prepare and release in the final quarter of 2021. These videos may be found on the American Honey Queen Program’s YouTube channel. Have you subscribed to this channel yet? If not, do so today!

2. SPEAK TO 25 YOUTH GROUPS, SUCH AS 4-H, SCOUTS, AND FFA CHAPTERS.
   Jennifer is an active participant in the 4-H program, from participating as a member herself to leading activities in her local county’s 4-H programs, so these youth groups take on a special importance in her life. As of September 26, Jennifer has given eight presentations to these types of groups, with many more scheduled throughout the upcoming months.

3. PARTICIPATE IN 15 MEDIA INTERVIEWS.
   As of September 26, Jennifer has had a wide range of media experience, from traditional radio, television, and print interviews, to syndicated educational television show participation. Jennifer has had 14 interviews so far, and we are excited to see what is in store in the final months of the year.

Virginia’s Goals & Results to Date
1. PARTICIPATE IN 15 MEDIA INTERVIEWS ON VARIOUS PLATFORMS.
   Spreading the word about the industry through media is a key component of the Queen program. Virginia has had a variety of experiences from newspaper interviews to radio and television spots throughout the nation. As of September 26, Virginia has had 13 interviews, and she’s prepared for more in these last few months of the year!

2. GIVE AT LEAST 100 PRESENTATIONS.
   Another core component of the Queen Program, Virginia has made her mark giving presentations to a very diverse and wide range of audiences. From Fire Departments and civic organizations and even to in home cooking classes and virtual platform demonstrations, Virginia has shared her love of the industry and using honey with 76 unique audiences so far this year, with plenty more opportunities to come.

Because of our world’s embrace of virtual presentation platforms, the Queens have the ability to reach audiences throughout the nation from the comfort of their own homes or even in their host family’s homes or hotels while on the road. Jointly, the Queens strive to reach an audience in every US state and territory before the end of the year. As of September, we have confirmed promotions in 33 states and territories through the end of the year, and there is plenty of time to help us reach your state or territory this year. (We have 23 to go!) Consider contacting your local 4-H or FFA to see if we can schedule the Queens to give a remote presentation. Even better, does your local radio station take phone interview guests? It would be great to connect with listeners in your state through a media spot. Contact me to help schedule a remote or in person visit from Jennifer or Virginia to help us reach their exciting goals! I thank all members who have helped the Queens have a productive promotional year!

The Queen Committee is excited to welcome our 2022 applicants for the American Honey Queen and Princess positions and to meet them in Las Vegas. We are eager to usher in a new year of promotions that continue to enhance honey sales and increase public awareness of the beekeeping industry. To schedule an in person or virtual promotions or presentation for Jennifer or Virginia before the ABF convention or one of our 2022 representatives post convention, contact me at 414-545-5514 or honeyqueen99@hotmail.com.
2022 AMERICAN HONEY QUEEN CANDIDATES:

2021 PENNSYLVANIA HONEY QUEEN
LUCY WINN

Lucy Winn, 20, is the daughter of Stephen and Lauren Winn of Carlisle, Pennsylvania. She is the youngest of five kids. Lucy currently attends DeSales University as a sophomore and is majoring in business management. Her family keeps backyard hives, which has sparked a passion for beekeeping. At school, Lucy tutors middle school math to students in Bethlehem, Pennsylvania. In her free time, Lucy loves to read, cook, throw pottery, hang out with friends, walk her dog, and keep bees.

2021 WISCONSIN HONEY QUEEN
ANNA EVENSON

Anna Evenson is the 22-year-old daughter of Jeff and Laura Evenson from Cambridge, Wisconsin. She is a graduate of University of Wisconsin-Platteville with a Bachelor’s of Science in Dairy Science with an emphasis in Public Relations. While at UW-Platteville, she was an active member of Sigma Alpha-Beta Delta Chapter and Pioneer Dairy Club. She is currently working as the Herdsman at Cedar View Dairy. In her little free time, she enjoys showing jersey dairy cattle, raising and selling broiler chickens, and spending time with her family.
Summer has come and gone, we have memories of splendid summer days in the beeyard, honey has been harvested, and we look forward to preparing the bees for winter and the new adventures ahead. The year isn’t over just yet, because the bees are still buzzing and so are my promotions.

One of my goals this year is to focus on youth groups to share with them the value of honeybees and how the industry affects society. All the buzz on June 25 in eastern Pennsylvania focused around a history lesson showcasing how beekeeping has evolved throughout the years and more specifically, from the 1800’s until today. During a virtual 4-H camp session, I taught students how beekeeping equipment has evolved from the 1800’s to today. Thanks to 2018 American Honey Queen Kayla Fusselman, the campers received supplies to make rolled beeswax candle at home, so I also taught the students about how hive products have been used through history. I followed up on June 29 filming a session for the Wisconsin State FFA Convention held in person and virtually. Over 900 FFA members were shown the wide array of careers in the beekeeping industry. Beyond becoming a beekeeper, there are many careers that support the beekeeping industry, from companies manufacturing and selling beekeeping equipment, to truck drivers transporting bees for pollination services and even graphic designers marketing products to consumers.

To gear up for summer travel and in person promotions, Princess Virginia and I participated in a mid-year training to hone our interview skills and prepare for in person promotions. We had a busy weekend in Moore County, North Carolina. We were invited to the Southern Pines Public Library on July 1 to celebrate the newly created pollinator garden by leading a presentation and craft for their Storytime group. A huge thank you to the McNutt family for hosting and to Dees Bees Apiary for showing us his beekeeping operation and arranging two promotions in Aberdeen, NC on July 2 and 3. To promote how great of a sweetener honey is, we spoke with customers at High Octane Coffee Shop and Burney True Value Hardware Store about how they can incorporate local Dees Bees honey into their morning cup of coffee, tea, or favorite snack.

Whoever says you can’t have more than one queen hasn’t had the chance to visit Arizona and meet the fabulous Audra Waddle, owner of AZ Queen Bee! The Maricopa County Home Show July 16-18 meant honey samples galore for the over 15,000 shoppers. In addition to sampling local honey, Audra and I expanded on additional ways to enjoy honey through products, such as cinnamon infused honey and whipped jalapeno, chocolate, or desert bloom honey. I even made bee and dragonfly beeswax candles to sell at the Home Show that weekend.

The summer excitement didn’t stop there, as county and state fairs were just beginning. In between my work duties, I joined in honey promotions and sales with the Wisconsin Honey Producers Association on August 7 and 11 at the Wisconsin State Fair. At their exhibit, we shared thirst quenching honey lemonade and honey ice cream with fairgoers. We also sold countless jars of Wisconsin honey varieties, including liquid comb, creamed, and chunk honeys, to hundreds of shoppers who sorely missed the opportunity last year. An always popular attraction is the live observation hive, where I helped fairgoers spot the queen bee among the thousands of worker bees.

I went from one amazing fair and to another in the beautiful Bluegrass State August 19-23. I kicked off promotions at the Kentucky State Fair with a Commodities Breakfast and interviews with both the Kentucky News Network radio and Spectrum News 1 Kentucky, bringing the industry over $1,800 in media exposure. From selling honey to conducting three hour-long cooking demonstrations with Kentucky State Beekeepers Association (KSBA) President Tom Ballinger, there was no shortage of honey or honey filled food. Creating four honey recipes on the Kentucky State Fair Gourmet Garden cooking stage each time allowed us to showcase how honey can be incorporated into fresh local produce, like honey balsamic roasted vegetables. With the gracious help of the KSBA and Kentucky State
Apiarist Tammy Horn Potter, I concluded my visit by sharing with WLKY News the resources found at the Fair to learn what steps can be taken to support honeybees in the area.

All eyes were on the bees August 24-29 at my next stop, the Hunterdon County 4-H and Agricultural Fair in New Jersey. From a live observation hive to a demonstration hive, I shared with the 24,000 fairgoers what beekeepers see on a daily basis in their hives. Stepping in and working with the bees sparks the curiosity of young fairgoers and bee enthusiasts and provides the perfect platform to share how docile honeybees are. I also learned alongside one of the best honey judges, Tim Schuler, as he judged all honey show entries from honey to photography and everything in between.

I assisted with taking moisture level readings using a refractometer to evaluate whether the honey was in the acceptable moisture range of 15-17%. Through the gracious generosity of both the Northwest New Jersey Beekeepers Association and Stan and Fran Wasiowski, I shared how important U.S. beekeepers’ work is when meeting U.S. Representative Tom Malinowski.

I shifted gears quickly to television filming in Wisconsin. Derald Kettlewell and I went into the outdoors on September 2 for a day of filming, and I learned about queen breeding, grafting, and shipping thanks to Glenda and Shannon Wooten and the many queen breeders in northern California. Through four radio interviews and 47 minutes of airtime valued over $4,700, I highlighted the broad uses of honey! The culmination of the trip was September 25-26 for the 40th Palo Cedro Honeybee Festival. Visitors could take home local star thistle honey or try a sweet treat, like huckleberry creamed honey. The stars of the event were the bees in the observation hive and those in the bee beard demonstrations. With the help of many experienced queen breeders, I demonstrated my first ever bee beard! The bee beard was a fascinating experience that showcased how sweet, docile, and easy it is to work with bees as long as you remain calm around them. People are enchanted by the beauty of honeybees and in awe of those who work with them. Whether it is a bee beard demonstration, a school presentation, or anything in between, there are so many educational opportunities to share our love for bees.

National Honey Month included many events. School is back in session, and my first virtual presentation of the new school year was to Community Day School in Pittsburgh, Pennsylvania. In honor of Rosh Hashanah, the Jewish New Year, our focus during the September 3 visit was the importance of honeybee pollination. Part of the Jewish New Year focuses on dipping apples into honey to have a sweet new year ahead, so it was a great way to focus on both honey and pollination! On September 4, I promoted at the Walworth County Fair in Wisconsin, where the highlight was exploring sweet and savory creations in the first ever honey spread contest. Wisconsin Honey Queen Anna Evenson and I tasted, deliberated, and determined the winners of this contest. I also talked with fairgoers about what bees and beekeepers do to prepare for winter at the observation hive located in the new pollinator building exhibit. The day capped off with a three-minute radio interview on 104.5 WSLD.

Promotions continued on September 18 at the Sun Prairie Farmers Market, working with Doug Jenks selling honey. We joined 103.5 The Sun radio to share what beekeepers do with bees during changing seasons. The interview was a success, and, just a few days later, that I was back on this station for an hour-long radio interview focusing on the beekeeping industry across the United States.

Beekeeping across the U.S. is different due to multiple factors, including location and weather. I next traveled to California, September 21-27, sharing this message. Students around Redding learned exactly how different beekeeping is in various states through 10 school presentations. Over 360 students learned about three types of bees within a hive, especially the queen, and had the chance to view a live observation hive to see if they could find the queen. I learned about the process of queen breeding, grafting, and shipping thanks to
Hello, fellow beekeepers! The last several months have been full of busy promotions for me!

From June 30 through July 4, Jennifer and I brushed up our media skills during our mid-year training with Anna Kettlewell, Rachel Bryson, and Jolene McNutt in North Carolina. In addition to training, we had several promotions, including a presentation at the Southern Pines Library for 40 children. This library recently added a pollinator garden, so Jennifer and I taught the children how to be still and watch honeybees buzz from flower to flower. We also partnered with Donald Dees from Dees Bees to promote his honey at two local businesses: High Octane Coffee Shop and Burney True Value Hardware Store, reaching hundreds of patrons! Donald found a unique market selling his honey in places where people would not normally look for honey, giving him much local popularity. Thank you to the honey queen committee for investing your time for training and strategizing with us to reach our goals and to the McNutt family for hosting and coordinating many opportunities to promote honey.

The following week, I returned to Texas for the Denton County Beekeepers Association meeting. I focused on the benefits of membership of ABF and how ABF gives beekeepers a voice in government regarding laws that affect honey and honeybees. This club met in person and had virtual attendance available for members, too, so I reached 40 members.

On August 4, I traveled to New Jersey for their State Fair. I helped judge the Sussex County Beekeepers Association’s polished jar honey competition with Tim Schuler, promoted a variety of hive products that were for sale, and gave a cooking demonstration and 12 hive demonstrations. This was the first time that I had ever gone through a beehive without ANY protective equipment. Working with James Cowell, we showed fairgoers how gentle honeybees were through the demonstrations. With record fair attendance of 97,057, we answered questions ranging from, “How do I use honey?” to, “How long do honey bees live?” Thank you to Joel, Nolvia, and Nicole Medina (2019 American Honey Princess) for hosting me.

I promoted at the Indiana State Fair August 11-15. The Beekeepers of Indiana had two exhibits at this Fair. One booth was in the Pioneer Village, a section of the Fair showcasing early farming practices in Indiana, with an emphasis on beeswax candles and products. I jumped in making candles in the booth. I gave a presentation each morning about beeswax, highlighting how beeswax can be used in soaps and lotions. One afternoon, I worked with the Village’s blacksmith making a wall hook from red-hot steel, and we used beeswax to coat the finished work to prevent it from rusting and add shine. The other exhibit was in the Ag and Horticulture building, where we sold honey from across the state. In addition to the booth work, I was interviewed by WIBC’s Home and Garden Show, discussing how consumers can help support the honey industry by planting flowers and using honey. This live radio interview was worth $900 of valuable airtime! The Indiana State Fair drew 830,390 fair attendees and the beekeeping booths were buzzing with customers. Thank you to the Beekeepers of Indiana and Kristy Dooley for sponsoring and hosting my visit.

August 29-September 6 took me to Nebraska. The Nebraska Beekeepers Association’s (NBA) booth at the Nebraska State Fair had four observation hives, several sizes of comb honey, and two television monitors playing videos in an area where fairgoers could learn about life inside the hive! In addition to working at the NBA exhibit, I had interviews with KRVN Rural Radio Network and NTV News. During the NTV segment, the reporter opened the container of comb honey on air and took a bite to prove that comb honey can be eaten straight from the package. This interview was valued at $4,800 of free publicity for ABF! I also gave five honey extraction demonstrations, highlighting the many steps to get honey to the bottle in the store. I partnered with the Nebraska Grain Sorghum Board for a cooking demonstration featuring German Honey Cake found in this year’s American Honey Queen Recipe Brochure. NBA Vice President Meagan Vetter took me to Cook and Beals to tour their facility and learn how honey extraction equipment is made. Shane and Tami Kuehl walked me through every step, and I appreciate their time broadening my knowledge about honey extractors. Thank you to the NBA for inviting me and to Brian Nelson for scheduling the interviews and tour.

After Nebraska, I flew directly to Ohio for the Lithopolis Honey Festival. In preparation for the Festival held September 10-11, I gave five school presentations showing the different colors of honey throughout the year, reaching 225 students and teachers. I also visited the Scioto Valley Beekeepers Association and spoke on how to reach your target audience using attention-grabbing social media posts and interactive presentations, whether online or in person. At the Festival, we sold liquid and comb honey and many shapes of beeswax candles. Twice daily, I gave hive demonstrations and showed honey-loving audiences where bees store their honey. I also helped judge the honey baking contest. The Festival also honored the memories of Barry Conrad and Arnold Crabtree, who were passionate and involved in the Honey Festival. Thank you to Carmen and Tess Conrad for hosting me during this challenging season.

On September 13, I arrived in upstate New York for a week filled with community events. I started with two virtual presentations for local elementary and middle schools and two local
library presentations about ways to support local beekeepers, including planting flowers for bee habitat. I had some incredible honey demonstration opportunities, too. I presented to a home education class in a local school, making Honey Butter Skillet Corn, Southwest Salmon, and Black Bean Salad with Honey Cilantro Lime Dressing. The Mayor of Speculator, New York, Jeannette Barrett, hosted a Cooking with Honey class in her home, where I showed attendees how to prepare five honey recipes, ranging from appetizers and entrees to desserts. We incorporated stations for the attendees prepare ingredients for the various recipes, making it an interactive event. I next appeared on the Heart to Heart with Gary Rhinehart show on Dockland Radio. The 35-minute interview was posted to YouTube later that day to maximize exposure for my events. Thank you to Jeannette Barrett for arranging so many great promotions!

The end of September kept me closer to home. I made a day trip to Moore, Oklahoma, on September 21 for some school presentations, reaching over 100 students. They learned much about the crops that need honeybee pollination! On October 25, I participated in the Bee Weaver Cook Off event held in Navasota, Texas. It was a great way to conclude National Honey Month, sharing honey recipes with the guests and teaching them different tips and tricks for using honey. Thank you, Laura and Danny Weaver, for inviting me to participate in your event.

ABF Members, thank you for your continued support of the American Honey Queen Program throughout this year! I have received great feedback and encouragement through meeting beekeepers across the country and have gained many valuable connections from my involvement in this program. Thank you for this opportunity to serve as your representative to the nation. I look forward to more events in the upcoming months in Texas, Georgia, Nevada, and other states in person and virtually, as Jennifer and I strive to reach our goal of promoting in all states and territories. If you have an event for Jennifer or me, please contact Anna Kettlewell at 414-545-5514 or honeyqueen99@hotmail.com. I look forward to seeing you at the ABF Conference & Tradeshow in Las Vegas, Nevada on January 5-8, 2022.

Princess Virginia showing the different colors of honey at the Lithopolis Honey Festival in Ohio.
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The following have contributed to ABF during the months of July - September 2021. These donations enable ABF to fund programs and services that benefit members and the American beekeeping industry.

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