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SPEAKERS

Jamie, Guest, Amy, Stump The Chump

Jamie 00:10
Welcome to Two Bees in a Podcast brought to you by the Honey Bee Research Extension Laboratory at the University of Florida's Institute of Food and Agricultural Sciences. It is our goal to advance the understanding of honey bees and beekeeping, grow the beekeeping community and improve the health of honey bees everywhere. In this podcast, you'll hear research updates, beekeeping management practices discussed and advice on beekeeping from our resident experts, beekeepers, scientists and other program guests. Join us for today's program. And thank you for listening to Two Bees in a Podcast.

Amy 00:43
Hello, everybody, and welcome to this segment of Two Bees in a Podcast. Today, I am excited to be joined by Manuel Cornejo who is a sideline beekeeper and is calling from Quito, Ecuador. He lives in Quito, but he's calling from the Cotopaxi region. I'm extremely excited to talk to Manuel today because he is a beekeeper in Ecuador. And Jamie, I don't know if you know this, actually, let me take a step back, because the way that I met Manuel, I have to tell you, we were at Apimondia together in Santiago, Chile, and we were standing in line to eat a hot dog. Do you remember that, Manuel? I looked at his hat and his hat said he was from Ecuador. And Jamie, I don't know if you remember, in episode one of our very first podcast segment, where did I live?

Jamie 01:36
You were in Ecuador for a while, right?

Amy 01:38
I was in Ecuador.

Jamie 01:39
Am I guessing correctly?

Amy 01:40

You're guessing correctly. I love that country. And so I saw his hat and it said Ecuador, and I said, "Oh, where do you live?" And he said, "Oh, I'm in Ecuador." I said, "Okay, great. I used to live there." And he said, "Great. Where do you live now?" And I said, "I live in Florida." And he looks at me and he said, have you ever heard of the podcast out of Florida? And I looked at him, I said, which podcast? He said, "The bee podcast." And I'm like, "Two Bees in a Podcast?" And he said, yeah, and I said, "That's me." And so it was a really funny introduction of meeting Manuel. And so I am really excited to talk to you, Manuel, today. Thank you so much for joining us on this podcast episode.

Guest 02:18
Hello, Jamie. Hello, Amy. Thank you very much for your time. I'm really excited to be part of this episode. And yeah, it was very nice moment there in Apimondia, and it was really funny how we met. So I'm glad to be here right now. I hope I can share my experience with you guys.

Amy 02:40
Absolutely. So we've been wanting to highlight beekeeping in different countries. And it was just perfect, our introduction, and I was excited to have you come on today. Before we go into beekeeping in Ecuador, I would love to hear about your story, your experience, and just let our listeners know a little bit about yourself.

Guest 02:58
Okay, great. My name is Manuel Cornejo, and I'm 25 years old. I studied agricultural engineering in Honduras in a college called Zamorano. That is where I got my first touch to bees. We had a module and I got stung by 10 bees on my face. So at first, I was really scared by bees, and it was not a great experience that I had for my first time with bees. But afterwards, on my last year of college, the pandemic came by and I was forced to come back to Ecuador where I started selling honey because we have a beekeeper on my father's farm that has his bees there and he gives us about 30 litres of honey per year and I started selling that honey. I noticed it was a good business. And afterwards, I bought my first five hives from him and I started managing these hives without knowing nothing about bees. Actually, it was the worst timing for buying these bees because the blooming season has just finished so I had to wait about eight months or so to get my first harvest. So it was a bit messy my first years, but I learned a lot and now I'm working in my own company. I'm a sideline beekeeper because I work for another company here in Ecuador. This company is exporting vegetables to the United States, to Japan, and to Europe. So if you ever go to Walmart and you eat broccoli, it might be from us.

Jamie 04:45
I'll keep that in mind, Manuel because we do get broccoli from Walmart, actually. That's cool to hear that connection.

Guest 04:51
Yeah, it's nice. And then when I have time during the weekends, during the morning, I check on my bees and it's actually what I love. It's my passion, and I'm very thankful for those bees that stung me at first in my face that made me overcome this fear that I had for the bees. And now I have a great connection with them.

Amy 05:13
That's so funny. I know that you do some short clips and videos online as well. Do you use that to promote your honey? Do you sell online? Can you talk a little bit about that as well?

Guest 05:26
Great. Yeah. So I have TikTok and Instagram. I make marketing videos for promoting my brand. My brand is named Honey Lyptus beause here in Ecuador, we have a lot of eucalyptus and most of the honey is made out of eucalyptus bloom. Actually, my brother named the company, but then he quit the job. He didn't like honey or bees at all, so I carried on. Now, I'm the owner and the only employee in my company, I make everything. I make the branding, marketing, the selling. So it's kind of a busy job. But yeah, the videos and the social media helped me to get to know more people, making the same here in Ecuador, and also people to recognize my brand. It's really important. It's not actually the primary way that I sell honey, but it helps a lot to people recognize my brand.

Jamie 06:32
Manuel, I think it was really nice that you were able to meet Amy at Apimondia. We'll talk about Apimondia shortly, but it really brought about this ability to talk with you specifically about beekeeping in Ecuador. As we told you behind the scenes before we started recording, we have a very keen interest in talking to beekeepers from around the world. And so you would be the first one we've spoken to from Ecuador. So I'd like to spend a moment talking to you about beekeeping there, specifically about commercial beekeeping in Ecuador. Could you tell us a little bit about the industry? Are most beekeepers hobbyist? Do you know how many beekeepers are in the country? Is it primarily honey production that the beekeepers are interested in? Or do you provide pollination services as well? So any general information that you can provide about beekeeping in your country.

Guest 07:23
Okay, Jamie. So, in general, beekeeping here in Ecuador is not a big thing. We do not actually have enough support from government. So we don't have medicine, neither control or data that can actually tell us how many beekeepers there are in the country. What I know is that there's about 10 companies, 10 big companies that buy honey from small beekeepers and sell that honey with their own brand. And there's this big company of beekeepers, it's big for Ecuador because it's not big for the states, they own about 1000 calories, they manage about 1000 colonies. They sell equipment, they sell queens, they sell honey, pollen, propolis, and the majority of products that bees can give to us. I think that's the biggest company here. But otherwise, beekeeping here in Ecuador is very informal. We don't have any official association, or like I told you, we don't have much support from the government. So that's really sad, because Amy can tell you, but here in Ecuador, we have biodiversity. It's wonderful. We don't have seasons, so I can produce honey all year long, and that's a really positive thing from beekeeping here. But we are like still starting here. We also have only Africanized bees, scutellata bees, so they are really aggressive. The majority of them, I know a few beekeepers that are managing European breeds, and I've bought a queen from them and they are really gentle compared to the Africanized bees, but they're much more delicate. So you have to be very, very on top of the Varroa treatments and any other issues that they will encounter.

Amy 09:27

So you just talked about honey production and also some of the value-added products with honey bees. You had mentioned in your experience that you work with vegetable growers, so I'm interested to know, is pollination something that is part of the beekeeping industry at all?

Guest 09:43
Yeah, they do pollinate here in Ecuador. Not in the company that I work because we know the majority of vegetables that we grow are conventionally grown. So they have pesticides, but I do pollination with blueberries in the north of the country. I think it's a good opportunity. I think the pollination business is just starting to be used here in Ecuador. It's not as in the states that all the almonds are pollinated by bees. But I think it's starting, and it's going in a good way. And hopefully, in several years, companies acknowledge beekeepers for their pollination.

Jamie 10:29
So Manuel, when you were talking a little bit in your introduction about the honey that you make, you said that it's principally from eucalyptus, and that's native to Australia. And it's funny, I've traveled quite a bit in the southern hemisphere, and it's very common for eucalyptus to be major honey plants in many of the countries where I visited in the southern hemisphere. So I found that interesting, and that it's your primary nectar source as well, but you guys are close to the equator, right? And so it seems like you'd have a lot of native flora or flowers that might be things to which bees are attracted. So could you talk about other honey plants you might have as well in Ecuador. And while I'm thinking about this, as well, you probably have some native stingless bees in Ecuador. So if you could you tell us a little bit about kind of the honey industry there with the plants that are used, and then maybe mention if anybody works with stingless bees in Ecuador?

Guest 11:24
Absolutely. So as I mentioned before, the majority of honey here is made out of eucalyptus. Obviously, as all honey, it's not 100%. But the flavor is pretty dominant. So it's really nice, and if you think about eucalyptus honey, you think about the eucalyptus aroma, but it's nothing like that. It's pretty different. Here in Ecuador, we have the eucalyptus globulus, that species of eucalyptus, and it's a pretty big nectar producer. And the other hand, we also have native species of flora here that bees are attracted to. I really don't know the scientific name, but I can tell you the common name that we use here in Ecuador. I do have my bees in a place that we have multifloral honey from these native species. We have a tree called Pumamaqui. There's a tree called Cholan. We have another tree that is named Jacaranda, another tree called [inaudible.] And I think those trees are found in the majority of the high land or the mountain area part of Ecuador, because Ecuador has the jungle, the highlands, and the coast part. So those four trees are native from Ecuador, and they produce a really special honey. I think it's my favorite. Okay, so here in Ecuador, we have melipona, that is a species of stingless bees. There are very few people that work on these bees, especially in the jungle part of the country. And in the South, in a province called Loja. People working with this honey believe that it has cure potential, so they use it for several diseases. I don't know if there are studies that can demonstrate this, but these people are convinced that their honey is pretty good for these diseases.

Amy 13:35

So you had mentioned earlier about some of the challenges that you face. Can you elaborate on some other challenges that beekeepers face in Ecuador?

Guest 13:44
I believe that everybody's facing this but climate change this last year has impacted all beekeepers around Ecuador. Normally, I produce about nine kilograms per hive per harvest, and I harvest about six to eight times. This year, I've only harvested four times, and about five kilograms per honey. And there are other beekeepers that have not even harvested anything. So it's really an issue here. We had a very dry season the last six months. So I think that that affected a lot for the next nectar flow. Right now, the rain has started so I hope it starts to get better. Apart from climate change, we suffer a lot from informal agricultural crops because people don't really read the label. And as you always say in the podcast, the label is the law. There are few people that read the labels and use the labels correctly. So there are a lot of people, and especially beekeepers that have found their bees dead because of pesticides. So that's another thing. And I think the principal issue that we have is that the government does not support beekeepers. So there are like no laws for beekeepers. There's no control of how many beekeepers there are in Ecuador. We don't have medicine. So right now, I'm currently treating for Varroa with oxalic acid that we can find, formic acid, I've managed to find an Apiguard, and the majority of people use amitraz. But it's not amitraz that is made for bees, it's amitraz that is made for cows. So it's really counter-producing to utilize something that is made for cows using for bees. This product actually does not harm bees. But I'm sure that it's in a dose that is much higher than what bees need.

Jamie 15:57
So it's interesting to me that you're mentioning Varroa as an issue because we have this long-held understanding from beekeepers who worked with Apis mellifera scutellata, the African-derived honey bee you're talking about, as being somewhat resistant to Varroa. But you would say that there is a Varroa issue in Ecuador?

Guest 16:15
Yeah, we do have Varroa issues in Ecuador, especially once a year when the dry season starts. So that's a must to treat your colonies before the dry season. But yeah, Africanized bees have somehow resistance to Varroa. And since I started to manage a European species of bees, like lingustica, and carnica, they need to be treated at least three times a year. And that's a really interesting treat that the Africanized bees have. But they are also very aggressive. So it's much easier to work with these European bees rather than working with the Africanized bees. I believe that both of these subspecies have their positive traits and their negative traits. I've managed to make them survive the whole year. I'm currently changing my queens every year if they don't swarm because Africanized bees swarm like crazy. You can go to a hive and you don't find any queen cells; you go next week, and they've already swarmed. I don't know how they do it because it usually takes 15 days for a queen to hatch. But with Africanized bees, I know that worker bees hatch at 20 days, not 21, so they're more productive.

Jamie 17:48
I really found that fascinating, Manuel, that you were mentioning that the stocks of European-derived honey bees you keep you have to treat three times a year to control Varroa, whereas African-derived honey bees you keep you don't have to treat at all, but you have to put up with extreme defensiveness.

So which of the two subspecies do you prefer? Africanized honey bees or the European-derived honey bees?

Guest 18:10
Personally, I prefer European species. I think they produce more honey and they have less swarms during the year, so it's much easier to control. Since I'm a sideline beekeeper, I don't have full control of what my bees are doing. I have limited time for my bees. So it's much easier to manage European subspecies than the Africanized subspecies. Obviously, the Africanized are much more resistant to all these diseases, and if you let them be, they will survive, but they will swarm a lot.

Amy 18:50
Yeah, definitely. So I want to switch gears a little bit. As I mentioned, we had met at Apimondia in Santiago in 2023. And I'm interested because everybody goes and they all have different talks that they go to and everyone kind of has a different experience. I'm wondering if you could tell us about your experience when you went to Santiago and what you kind of came out with as far as the talks you attended or the people that you connected with? Did you feel like you've met lots of beekeepers from different countries that had some of the challenges or some of the same beekeeping issues that you have as well?

Guest 19:22
Well, I noticed that Varroa is a big deal in all the world. As I mentioned before, we don't have enough treatments here in Ecuador. We make our own treatments. Each beekeeper has its own formula and has been working with what works for them. But I really loved especially three talks in Apimondia. Randy Oliver's talk about fighting Varroa and about trying to quit amitraz use, then I also like a lot the Cameron Jack talk, I know he works with you, and he talked about different methods of applying oxalic acid, and last but not least, I liked a lot the talk about Frank Rinkevich, the USDA guy. He also talked about Varroa treatments and how these different products are starting to have resistance to Varroa. I mentioned three talks and the three mentioned Varroa. Before going to Apimondia, I really didn't know how to manage or how to change products throughout the year. So I think Apimondia helped me a lot to make a good decision on which product should I use during the time of the year. I also liked a lot the expo sessions that I had. I got to meet a lot of beekeepers from Chile. They mentioned that they only have European subspecies there. They haven't encountered the aggressiveness of African honey bees. And it's nice to obviously get along with beekeepers, talk about bees the whole day because it's my passion and it's what I like. Sometimes, I feel that, with friends and family, I cannot talk the whole day about bees because they will get bored. But this week was amazing. I learned a lot and I met a lot of new people, including you, Amy. So thank you a lot for that coincidence.

Jamie 19:55
So, Manuel, this is kind of the last grand finale question. But where do you think the future of beekeeping will go in Ecuador? What do you see the future bringing for beekeepers there?

Guest 21:49
Okay. So, as I say to people in Apimondia, beekeeping in Ecuador, we are like in diapers, we are not pretty advanced here. I'm really convinced that we have a lot of potential here, especially because we

have a lot of biodiversity. We have pollination potential. And I feel that the government will start helping us. Currently, we changed our president last week and he's an agronomist. So I feel he can start to help the beekeeping community here in Ecuador, because as well as in other countries, bees are being affected by pesticides. And maybe they are not being killed, but their reproductive system is being affected. Queens do not last as long as they used to last before. So I hope that someone listens to me and that we can make any project or bring some medicine made for bees here to the country and start making good progress for Ecuador because it could be a good potential to start selling honey over the world. Ecuadorian honey, I think, we actually import honey from other countries because we don't have enough supplies. And obviously, we have the same as other countries. We have adulterated honey, much cheaper, and we cannot compete with that. So I hope someone listens to me and we can start great projects here in Ecuador.

Amy 23:28
Yeah, absolutely. Thank you so much, Manuel, for being on our podcast today. I cannot wait. Now, I'm gonna take this as I can't wait to go back to Ecuador so I can work bees there. Maybe we can go visit the Galapagos Islands while we're at it, too.

Guest 23:42
Yeah, you guys should come here at least once. We have beautiful landscapes, beautiful people here. There's a nice beekeeping community that is growing. So I hope you get time and you can come visit here in Ecuador. I will be more than glad to help you visit the country and make you go to the right places here in Ecuador.

Amy 24:07
Absolutely. Thank you, thank you, thank you, again, so much. We look forward to continuing communicating with you and seeing what we can do to help in the future. So, thanks so much, Manuel.

Guest 24:18
Thank you, Amy. Thank you, Jamie. And it was a pleasure to talk to you guys in this episode of Two Bees in a Podcast.

Amy 24:35
Jamie, I was rambling on at the intro of that segment. But I was super excited to have him because I thought our story of meeting was really funny. And he was just like, "Have you heard of the podcast in Florida?" And I'm like, "No, I haven't heard it. I'm the host and I don't listen to myself."

Jamie 24:51
That was a funny coincidence. So it's neat. One of the things though, too, Amy, that came out while he said it, and it shows you kind of the impact of the podcast, he's like, "I know you guys always say the label is the law." That's not the first person who I heard say it.

Amy 25:03
I know.

Jamie 25:04
And it really has made a difference. And so it's nice to know that our podcast is reaching globally and that people are actually making management decisions based on the things we talk about. So that's nice.

Amy 25:13
Yeah, definitely. So you and I were kind of chatting before we had pushed record here, and there were a couple of things that he brought up of interest. And one of those things was that it was primary eucalyptus, and Jamie, we've released an episode on beekeeping in Brazil with Samir, and he also said that their primary source in Brazil was eucalyptus as well. So what were your thoughts on that?

Jamie 25:35
Yeah, when he said that, I'm like, gosh, this is fresh in my memory for two reasons. The number one is because of the whole Brazil thing, like you mentioned, because Samir, who's been in our lab for a while doing some research, he was talking about that being their primary honey plant. Of course, I did my PhD in South Africa, and I was actually in South Africa earlier this year in 2023, and one of, it's not the exclusive, but one of their primary honey plants for the various species of eucalyptus that they have there. And of course, all of these things came from Australia and eucalyptus is, as you might guess, a primary honey plant, there's no one species of eucalyptus, there's actually many species and beekeepers use them really all around. I see it a lot, again, in the southern hemisphere. And it's funny, in Ecuador, in a land full of flowers and all kinds of that, that eucalyptus is a primary. And it's funny to me because you often see introduced species or sometimes invasive species being the primary thing that honey bees use. I mean, we even have a situation here in Florida, for example, Brazilian pepper, and it's just interesting to see those kind of occurrences globally.

Amy 26:36
Yeah, the other thing I wanted to briefly mention that we were discussing was just the idea that they are managing European honey bees and also African-derived honey bees. So they have different subspecies of honey bees that they're managing. So I think I would have assumed, and I'm sure you would have as well, that they were just keeping one subspecies of honey bees, and that's what they were managing. But Manuel was really talking about how he was kind of managing both and working with both.

Jamie 27:00
Yeah, that was an interesting thing to me. And it's funny, I didn't think to ask about it until we started talking about Varroa treatments. And I'm like, "Well, gosh, wait a minute, scutellata is not something that you hear about Varroa treatments." And that's when he said, "Well, I wasn't doing it in scutellata colonies, I was actually doing it in European-derived colonies." So then I'm going, oh, gosh, usually folks in areas with scutellata present, it can be very difficult to keep bees. I know in Florida, we have scutellata present in the southern half of the state, but it hasn't overtaken our managed population, whereas in South America, it became the managed bee. When you see that, you don't see European-derived stocks quite as much. And he was mentioning that he had to keep them both. I just found it fascinating. The pros and cons he associated, like I like keeping scutellata because I don't have to worry about Varroa, but on the other hand, they are so mean. I like keeping European bees because

they produce a lot of honey, and on the other hand, I have to treat them three times a year. It's funny, because it really doesn't matter where the beekeepers are or who we interview, we all have the same issues. It's interesting to hear that even in Ecuador and some of these other interviews that we've had all around the world.

Amy 28:06
Sounds good. All right. Well, I'm ready to go to the Galapagos Islands to check out the different species and subspecies of bees there.

Stump The Chump 28:20
It's everybody's favorite game show, Stump the Chump.

Amy 28:29
Welcome back to the Q&A segment. Jamie, today, I actually have four questions for you. Normally, we do three, but I didn't tell you this before we started pushing record. The first question I have, the lab members went to go see the movie "The Beekeeper" last week. And the question that I have for you is I want you to tell me what a Queen Slayer is.

Jamie 28:50
It's funny you asked that because I've had this conversation with someone. Someone mentioned seeing "The Beekeeper," and they said that they learned about the Queen Slayer, and I'd never heard about this. Apparently, Amy, it's just jargon for the worker or workers that end up killing the queen in a supersedure event, and I didn't know they actually had a title. But I think someone just put that fancy title to it. But anytime the colony wants to requeen itself and they elect to kill the queen, I think a lot is not known about this behavior, there's got to be some bees that do that. Someone has to be the one who finally pulls the trigger, so to speak. So apparently there is jargon for the name of those bees or that bee, and they would be called a Queen Slayer. But it's funny because Cameron, Dr. Jack from our lab, he said "The Beekeeper," basically, he's like finally someone's made a movie about the story of my life.

Amy 29:43
Yeah, that's right. Oh my gosh, the movie was not that great. But let me tell you, the one liners were pretty solid. So that's my review and that's my take on it. I'll be sure to add the Queen Slayer to all of our references and appendices moving forward.

Jamie 29:58
I know I'm gonna have to change my talk on worker honey bee tasks. I'm gonna have to add a slide for the Queen Slayer.

Amy 30:02
The Queen Slayer. I love it. For the real questions, for the first question that we have, someone was asking about natural beekeeping. There's a whole community of people who practice natural beekeeping, and they don't treat. So the question is really about whether there has been any research done on the survivor colonies, these bees that are kept naturally or not kept. They gave the example

with Dr. Seeley and others saying that the strong will survive and the weaker will succumb. What are your thoughts on this? And how are the bees that are just practiced naturally? And I guess that depends on where, so that's another question.

Jamie 30:39
So, Amy, we're wading into very controversial waters with this discussion. And I'm afraid that, as a scientist, I'm kind of taking a slightly more pragmatic approach to this. So I'm going to kind of start at the top, and I'll probably get myself into trouble and I'll try to get myself out of trouble by the time I finish answering the question, but we'll see where it goes. The questioner is right. There's a whole community of folks who practice natural beekeeping and do not treat. So there are a couple things to say there. Number one, can beekeeping ever be natural? The moment you take bees out of a tree and put them in a box, to me, it ceases to be natural. So really, the more popular jargon for this type of beekeeping is Darwinian beekeeping, which Tom Seeley and others have advocated and Tom gives a talk about it. He's got documents on this idea. The central premise is this, just watch what bees do on their own and let's just try to follow that. Keep them in smaller hives, maybe keep the inside walls of the boxes roughed up so the bees will deposit propolis like they normally would, simple things like that. And I would argue that natural beekeeping does not always hold hands with treatment-free beekeeping, but they often get lumped together. Gosh, this can really get me in trouble. But I am not a treatment-free beekeeper. I'm kind of the stance that we have an ethical obligation to do what's necessary to protect the health of our bees, and if that includes treating to control Varroa or whatever, then I think we have that obligation to do that. Now, some people take the approach that we're not going to ever treat at all, and we're just going to let survival of the fittest happen. And let me just say something on this concept. The beauty of beekeeping is you're allowed to do kind of what you want to do in that context. I'm not trying to convince people to follow my idea here. But what I would say is, of course, if none of us ever treated again, none of us ever, eventually, we would have populations of honey bees develop that are resistant to Varroa, or at least tolerant to Varroa, they could fight many of the pests pathogens that they combat. That's just natural selection. I mean, it's almost like people have just come up with this wonderful idea, and it's really nice. It's just natural selection. The downside of that, Amy, is you're going to have massive population crashes, which people might say, "Well, it's worth it. If it's only a population crash of one to two to three years, it would be worth it." But the only problem is that natural selection doesn't happen that fast. Furthermore, people's entire businesses, their livelihoods, food production would suffer for those years that we had these massive population crashes. So it's a really good philosophical idea, but it's really hard for me to see it working globally on a commercial level. But let's go back to the practice about it. The questioner said, has anyone studied the survivor colonies? Well, yes, there's a survivor population in Brazil that people study. Tom Seeley has a survivor population in the forest in New York people study. There's a French survivor population in a Gotland Island, which is an island in Europe survivor population. There are definitely survivor populations. But I find when I talk to the people who are intimately familiar with these populations about their population, I find that, behind the scenes, there are huge losses, and all of these other things that often don't hit the mainstream press, and I don't want to chase this rabbit too far, this idea of survivor populations, because there's a whole philosophy around, will that quickly lead to resistant populations or not? I'm of the camp that it wouldn't necessarily do that. But I know that there's a lot of folks who would advocate for it. I know there's a lot of folks who say we should just do nothing, or we should pursue more, again, natural beekeeping, whatever that term means. And I'm okay with it. But what I'm arguing is that if you

go that route, it's going to be different. And you're going to have these kinds of ethical dilemmas about whether or not you should let colonies die, that we're feeding bees to keep them alive, and on and on and on. But all that said, there is definitely a groundswell in this area. And there's people who are really beginning to study it, again, Tom Seeley and others especially looking at the survivor populations globally and asking the question, why are they surviving? I'm a cautious skeptic about survivor populations. And I'm sure that's going to get lots of questions and I look forward to answering those in future episodes.

Amy 34:57
Sounds good. For the second question that we have, it is about honey bee defensiveness for Daughters of Russian Queens. I think that, sometimes, the Russian honey bee has a reputation for being a little bit more defensive. This particular individual didn't really experience that until just recently. It did happen as far as they tried to graft a number of queen cells from that queen, and then, all of a sudden, those hives became super defensive, to the point where they did have to euthanize those colonies. I guess, what are your thoughts on why this could have happened or whether it is even the Russian queens or whether it was just maybe there was something else out there that was breeding with the queens that they had tried to raise themselves?

Jamie 35:43
Yeah, so there's a few things possibly going on here. And I have a lot of experience with Russian queens myself because that's a bee that I've used for a while. And I will tell you, there is this huge anecdotal kind of discussion about the F1 to the offspring of pure Russian queens. And so what does that mean? Most of the time when you're buying Russian queens from queen producers or breeders, they are working to ensure that they've got Russian lineage derived mothers mating with Russian lineage derived drones so that you get, quote, pure Russian queens. Beekeepers who use that kind of first generation, those purebred Russian queens, don't usually report this defensiveness trait. But it is common enough to believe that there's something to it, when that queen dies, and she's replaced by a daughter who open mates, there's a lot of anecdotal discussion about those offspring being quite defensive. I have seen that myself. Again, it's not a research project. It's just anecdotal experience, I've kind of seen that myself. And I hate to say this, but it's true. Some of the most offensive colonies I've worked in the last 20 years here in the US had been kind of that F1, that daughter generation when I've purchased Russian queens or others have purchased Russian queens, and they've requeened themselves, and that queen open mated. Now, I'm a scientist. Half of me is a beekeeper who wants to believe the anecdote. The other half of me is the scientist who needs to see the data. I've not seen any research on this idea. But I know that Dr. Cameron Jack in our lab is actually managing Russian stock alongside other stocks for research projects he's doing. And they are going to look at defensiveness comparisons between those different stocks, and hopefully between those F1 generations. So I would say the jury's still out on this. It's not like we know with confidence, it's just that there's enough anecdotal discussion about it that I'm starting to think maybe there's something to it, but I'm going to try and put some data to that to see if there's any legs to it, or if it's just my imagination.

Amy 37:45
Yeah, absolutely. And I feel like there's a lot of research going on with drones specifically as well. So it'll be interesting to kind of see where researchers take that. For the third question, this person had heard

recently that there might be a pollen sub that's out there that's not very attractive to small hive beetles. So one, is this true? Is this a thing that's out there? Two, what would make it so that a pollen sub would not be attractive to small hive beetles, but also be attracted to honey bees?

Jamie 38:14
So Amy, I've not actually heard about pollen subs like that. I did a quick search on Google. And of course, there are a lot of home remedies that people are suggesting that you can make with small hive beetle resistant pollen patties. And maybe there are some on the markets that I'm not aware of. But the question here is specifically saying, essentially, what would I put in the sub to have this effect? Well, if there is a company marketing a sub that does this, they're almost certainly not going to tell you, right? That would be their proprietary information. That's one of the things that would make the sub worth owning. I will just kind of broaden my answer to say, it is possible that this questioner is confused some of what they're seeing with some research that's coming currently out of the University of Georgia. Dr. Lewis Bartlett has found a compound that if you mix into pollen subs, it will kill small hive beetles that consume the sub and be innocuous to bees. And he's trying to do additional research on that to bring it to market, maybe as a small hive beetle control and something that can be around bees. So stay tuned for more on that later. But I'm not aware of any commercially available pollen subs that boast small hive beetle repellency. And I'm sure if you're a listener out there, and I'm wrong, you just let me know. We can come back and re-answer this question on a future episode. But if you think about it, pollen subs have everything that small hive beetles want. And when you're squeezing a pollen sub between two boxes, you create those spaces where the beetles can go hide, they've got all the food that they want, they can go in protected areas and reproduce, which is why so many people see problems when they put pollen subs on colonies. Again, a quick Google search and I found people making claims about small hive beetle resistant pollen patties. But everything I see, it's just beekeepers kind of randomly recommending what they put into their subs to keep beetles away. I would caution against doing those things if there's no scientific backing.

38:42
I think that's totally fair. You know what's been really fun is that we've got all these questions coming in, and then we'll answer them. And a lot of times, you'll do exactly what you just did, and you'll say, if someone else knows about some research going on, we'd love to know. I mean, that's part of our job is to know what's going on with the research. And we've gotten a lot of feedback lately, Jamie, of people just responding to us and saying, hey, someone did do this study, and someone did this or that and here's the publication. So we truly appreciate it and love that we've got feedback from our listeners and we love the interaction with you all, so please continue to do that.

Amy 40:42
Thanks for listening to today's episode. This episode was edited and produced by our podcast coordinator Mitra Hamzavi. Thanks, Mitra.

Jamie 40:51
Visit the UF/IFAS Honey Bee Research and Extension Laboratory's website, UFhoneybee.com, for additional information and resources for today's episode. Email any questions that you want answered on air to honeybee@ifas.ufl.edu. You can also submit questions to us on X, Instagram, or Facebook

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