

Episode 48 Mixdown PROOFED

Mon, Apr 11, 2022 12:56PM • 40:28

SUMMARY KEYWORDS

beekeeping, colonies, extension, bees, randall, spanish, hive, speaking, beekeeper, mites, community, work, commercial beekeepers, iowa state university, year, florida, varroa, question, puerto rico, extension agents

SPEAKERS

Stump The Chump, Jamie, Amy, Guest

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. In this episode of Two Bees in a Podcast, we will be joined by Randall Cass from Iowa State University. He will be talking with us about developing extension programming for Spanish-speaking audiences. Then Amy and I will have a Five Minute Management on how much time can you expect beekeeping to take depending on whether you're a hobbyist to sideline or a commercial beekeeper. And of course, we will end today's episode with our question and answer segment. So thank you for joining us on this episode of Two Bees in a Podcast. Hello, everyone, and welcome to this segment of Two Bees in a Podcast. Today, we're going to talk about a growing challenge, yet a growing opportunity and extension. All of you know extension is the science of getting science to a clientele group. Amy and I who are on this podcast, this podcast is extension. We're taking science and digesting it and giving it to the masses around the world so hopefully it can change and improve your beekeeping practices. Well, this growing opportunity and extension is where we start to experience language barriers. For example, here in Florida, we have a very large Hispanic population. So there's often a struggle getting extension information to groups that speak different languages because oftentimes, at least in the US, a lot of extension information is produced in English. I know elsewhere around the world where other languages are spoken, they have similar difficulty trying to get extension information to those groups of individuals who speak different languages. And here today, we have an expert on this topic, Randall Cass, who's a bee extension specialist with honey bees and native bees at Iowa State University in the Extension and Outreach Group. He has an extension programming designed to reach Spanish-speaking audiences. So Randall, we're excited that you are joining us today on Two Bees in a Podcast to tell us your strategy and give us some pointers for reaching audiences who don't necessarily speak English as a first language because at least here in Florida, again, as an example, a lot of the employees to a commercial beekeeping operation speak exclusively Spanish. So

getting information to those groups can be a challenge sometimes if we ourselves, don't speak other languages. So Randall, thank you for joining us. And I look forward to talking to you about all of this.

Guest 03:08

Yeah, I'm happy to be here.

Jamie 03:10

And it's exciting because this is a problem again, that we've had here in Florida. So before we get into the weeds of your program and hearing about how you've done this, could you tell us a little bit about yourself and how you ended up in your current position? Our audience always loves to discover something about our interviewees. So I know they want to hear about how you found yourself where you are and working with bees in the first place.

Guest 03:32

I think that I have a pretty atypical road to beekeeping and extension. After college, I worked in agriculture and I was really interested in international development and agriculture. And that took me to Chile in South America through a Fulbright Grant where I originally wanted to look at organic ag down there and do some research with farmers. But when that project didn't work out, I turned to beekeeping and ended up doing a series of interviews with beekeepers in rural areas in the country to look at beekeeping as a supplementary income for small farmers. Beekeeping was something that I had been slightly exposed to after college and that I had been exposed to growing up working in canola fields in Idaho, where they were used for pollination, and so it was something that was always in the back of my mind that I was interested in. Then when I came back to the States to go to graduate school at UC Davis in California, I was focused specifically on agricultural development, but I had a semester where I didn't have a TA ship or a research assistant position and I just, I still had, in the back of my mind, I still had interest in bees. So I knocked on the door of one of the bee research labs and said I'd offer to volunteer. From there, it took off. That's where I really cut my teeth with beekeeping, management and bee research altogether, and so that really informed some of the work I did after graduate school where I took positions in Central America, working for the nonprofit Catholic Relief Services as an agricultural livelihoods program manager. And so on top of the agricultural work I did, I was able to find some smaller projects working with beekeeping for development in rural areas of Guatemala and El Salvador. So once that position was coming to an end, I realized that's really where my passion was with beekeeping and extension. But I didn't think that there were a lot of jobs out there that wanted to do that. But luckily, I came across this job at Iowa State, and I was a good fit. And so I moved out here to Iowa, moved from Central America to Iowa and started this position as an extension bee specialist, and a supporting research, and then also developing some of the programming of my own.

Amy 05:51

Randall, I think you and I actually have a lot in common. So I actually started in agriculture as well, in my undergrad just interested in food production and food systems. And don't you feel like we just have the best job in the whole world?

Guest 06:03

Oh, absolutely.

Amy 06:04

Job is literally just teaching people and talking about bees, which is really great and really cool. So you've been at your job for about three years now. Right? So you're relatively new to your position. I say that, although I've only been with a lab for about a year and a half or so. But you just recently received a grant to provide outreach to underserved in Spanish-speaking communities. Can you tell us about this project? I know that Jamie and I have worked a lot with some of the extension agents around the state as well who are Spanish-speaking extension agents, and they've kind of been helping us with, I guess, translating some of our documents. But tell us about your project. So what are some of the objectives that you have? Maybe some of the goals that you hope to accomplish? And of course, what is the interest and need in your community?

Guest 06:48

Yeah, I'm glad that you mentioned interest and need in the community, because that's one of the primary things that we're trying to assess in this first year of the project. So coming to Iowa State, I was excited to use some of my skills to bring to the table and the fact that I speak Spanish and hopefully do some Spanish outreach. But Iowa is a pretty different state than Florida. There are not a lot of Spanish speakers here. And so I think my skills would be better used somewhere like Florida, or California, or Texas. But that said, I tried to gauge the level of community interest before applying to this project. So we do have small pockets of Spanish-speaking communities in the state. And so I reached out to our extension offices that are in those counties and talk to them about interest. And we looped in a few people that work for Latino organizations in those areas. And they expressed some interest as well. But they brought up a lot of really interesting points that really informed our application. For example, one of the groups I was talking to said, "Hey, this seems like a neat idea. But a lot of people in our community, they work all week, some of them work Saturdays, all their time off they want to be with their families. So how are you going to convince people to take up this hobby?" And I said, "Well, in the past, I've worked with it as sort of looking at it as a side gig or supplementary income." And their response was, "Oh, well, okay, do you have anything that shows us that we're gonna have a return on investment if we do this?" And I didn't. So that was an important aspect that I built into our grant in addition to developing curriculum in Spanish, developing extension handouts in Spanish, and booking these classes and field days that will be bilingual. Also, since this is just a one-year pilot project, we're also developing a market study with an economic team here at Iowa State University to look at all the input costs associated with getting started beekeeping but also look at the market. If you're selling at a farmers market, what's the return on investment that you can expect it after year one or after year three? So that's an aspect of the grant that I'm really excited about. I didn't even mention that the grant, I applied with a local organization called the Center for Rural Affairs. So they were another organization on the grant with me and they had already worked extensively with this type of programming with the University of Nebraska doing some Spanish outreach and creating curriculum and outreach materials for Spanish-speaking communities there. So together with the Center for Rural Affairs, we applied for this grant. It's a USDA grant Beginning Farmer and Rancher Development Program, BFRDP, it's a one-year grant and along with this market study and working with these communities in holding these classes, we're going to gauge the level of interest in beekeeping in these communities, and potentially expand more of our outreach to Spanish speakers in the future.

Jamie 09:53

So one of the things that was interesting to me that you just said, at least early on, and they answered this particular question you'd mentioned, maybe in Iowa you don't have quite as large pockets of Spanish-speaking communities as we do, for example, here in Florida, but I would argue to you, whatever it is that you guys find through your research would be very applicable to other states. There'd be other states who might want to collaborate with you because we're going to have this opportunity moving forward still well into the future in Florida as much of the beekeeping labor force actually comes from Spanish-speaking countries. And so we have that need to get information to them. It's actually very common for me to visit commercial beekeepers and them have a general inability even to communicate sometimes clearly with their employees. And they have to do it through maybe one or two employees who have a pretty good understanding of English. And so I think developing extension programming, brochures, etc. in languages that support people who are working in the beekeeping industry is a really good idea. So how do you see your Spanish-speaking extension program moving forward? How do you see opportunities to expand it outside of Iowa?

Guest 11:00

Well, expanding outside of Iowa, that would be an exciting opportunity. I guess I really hadn't thought about the future or outside of Iowa. I guess my goal would be that perhaps we could use this one-year pilot project as somewhat of a case study to gauge local interest. Or people could potentially use it as a template. One of the things I definitely didn't want to do when I was incorporating Spanish materials into our programming was do it without community interest or community buy-in. I really wanted to make sure that it was something that people were interested in doing. Because any extension person knows this, you're going to have a really cool topic, but you can't just go stand out on the street corner and talk about it, you need to make sure through evaluations, through case studies that this is something that's going to work in your state, and also something that the community is looking for. And so I think that at least in this first year, we're creating a really good template for others to use for gauging the level of community interest before you can really have your program take off.

Amy 12:13

Hey, have you guys ever seen that movie Stepbrothers?

Jamie 12:17

I've not, but I'm aware of it.

Guest 12:18

Yeah, I haven't either.

Jamie 12:20

You're making me nervous. I don't know where this is headed.

Amy 12:22

What, no. There's a part, listen, there's a part that says, they're both sitting there, and they look at each other. And they're like, "Did we just become best friends?" And I feel like, Randall, you're talking about

your programs and this is something that our lab is very interested in. And I definitely see that there's a potential for us to collaborate in the future. So that was the reason why I brought up Stepbrothers.

Jamie 12:46

You had me worried. But that was a good recovery, Amy. But Randall, I will say, what you mentioned earlier about a template, I think that's a really good comment. As you go around the country, maybe even around the world educating about this particular program, you could see maybe lots of opportunities for other folks to look at it and go, "Hey, man, if he can do it there in Iowa, we have a population who speaks a given language, and then we can help focus on making extension programming in that regard." So I really think that that's neat. You've identified a clear opportunity and are addressing it in a really neat way. And so I think that that's a good model for others of us to follow as well.

Guest 13:22

Yeah, I hope so. And one thing I've learned coming here to Iowa is that beekeeping is so different depending on where you're doing it. When I was in Northern California, we had cool winters, but it was never snowing or anything like that. When I was in Central America, it was just year-round beekeeping. We never had that overwintering cluster period, it was just go, go, go all year. And now that I'm here, I've had to learn about overwintering hives and wrapping hives and insulation, beekeeping in the snow, which is something I'd never experienced before. And so hopefully, this will be something that people can use and adapt to their specific region or climate needs.

Amy 14:03

So Randall, I don't know if you know this. But Puerto Rico also has an extension service. And they have extension agents that work with beekeepers. Jamie and I are actually doing a program with them. Of course, Puerto Rico is part of the US, so they're not a different country, but a lot of their clientele are primarily Spanish speakers. So do you have suggestions for educators who are also trying to expand their extension programming, whether they're extension agents here in the state, outside of the state, outside of the country? What suggestions would you have for someone who wanted to start with a Spanish-speaking program?

Guest 14:40

Well, if we're talking about Puerto Rico, specifically, Puerto Rico is a fascinating place to look at considering their history of Africanized bees and their ability to sort of breed out the aggressive genetics of the Africanized bees on an island in this isolated location, yet maintain the high productivity levels. But then again, working on an island, this was something that I experienced in El Salvador, access to beekeeping equipment is really tough. When I was in El Salvador, El Salvador was a very small country, there was one beekeeping supply store for the whole country. And everything had a really high markup on it because they were importing it from the US or from China. So as I mentioned before, every place has its very, like, specific needs. And then in terms of Spanish outreach in Puerto Rico, I don't see there anything super special you need to be doing in terms of language other than producing more materials in Spanish, which I would be happy to be a part of, or if my materials can be used as a template to share with them. But yeah, Puerto Rico would be a fascinating place. On top of that, hurricanes, providing support to beekeepers that lose their hives as the result of climate disasters

would be another consideration there. So I'm just going to tell you, I'm kind of fanboying about Puerto Rico, because I think Puerto Rico beekeeping is really fascinating and an exciting place to look at it.

Jamie 16:03

Puerto Rico actually sets the stage for this next question that I can ask you, Randall, one of the well, I'm going to broaden this statement. I travel internationally all the time, and it's amazing to me how almost everyone I encounter speaks two or three languages when I'm outside the US, but Americans, we tend to speak only one language. Most of us probably can only speak English. And so when there's someone like me at the University of Florida, or Amy here at the University of Florida, and we recognize an opportunity in the state, for example, our large Hispanic population who works with bees, etc. but we recognize we cannot ourselves speak Spanish or a different language, how do you address that?

Amy 16:45

Speak for yourself.

Jamie 16:47

Say that in Spanish, Amy. Well, so I guess my point is, now that my point is proven, where there may be opportunities for collaboration? What do we do when we can't necessarily speak the language of the group that we're trying to serve? In your case, you're bilingual, but how do those of us who recognize these opportunities find partners who can help us reach these groups that are underserved in this particular area?

Guest 17:12

Yeah, absolutely. I think that there's a couple of things that this brings up. And they're somewhat related. I would say that anytime you're going into a community where you're an outsider, especially for me, I think that my biggest hurdle to get over isn't the language barrier but maybe the fact that I'm definitely a community outsider. And so whether you're just an outsider, whether there's a language barrier there as well, it's important to make community connections, make friends in the community, find organizations to partner with, regardless of the language spoken, in order to actually have an impact in that community. In my case, I'm a little bit lucky. My partner organization, the Center for Rural Affairs already has pretty deep roots with Spanish-speaking communities. They have staff members that can assist with translations, and their model they've been doing so far is having bilingual extension classes. So they'll have two separate rooms, the same presentation, but two separate presenters, one presenting in English and one presenting in Spanish. So there are a few different ways to try to think outside the box in terms of providing extension. And that's something that we've had to do, especially this past year with COVID and coming up with outside-of-the-box ways to reach people. But I think that the primary goal would be creating those community connections since you're coming in as a as an outsider from the beginning.

Amy 18:41

So fun fact, one of my colleagues and I, when I was an extension agent, before I was in this position, her and I did backyard gardening classes. I did them in English, and she would do it in Spanish. And so we would offer it in both of our counties. So that was a lot of fun to work with. And I think what I love about extension is that we don't know at all, we pretend like we do, but we don't know at all. But what

we are good at is connecting with people who can help us and that we can collaborate with, right? And so I think that that's a great resource for everyone. Just to know as far as extension goes, if your local extension person doesn't know the answer, they probably know someone that can help them. So collaboration is key. So I really enjoy that. And I really enjoy listening to your plans for the future.

Guest 19:31

Yeah, absolutely. We had hoped to get this project off the ground a little bit earlier. But with COVID restrictions, it's been a little bit tough. We've sort of pushed things back. We're hoping that later this year, because we see this program being more successful if we can do things in person, especially things like beekeeper field days, we're going to push things back to the summer for most of our classes and field days. And hopefully, we'll be able to do a lot of it in person. This past fall, my colleague, Dr. Amy Toth, and I taught a beekeeping class and we were still able to, for undergraduates here at Iowa State University, we were still able to offer the hands-on component by dividing students into smaller groups and having guest instructors positioned at separate hives of groups of about six. Everyone had masks, everyone had gloves on, we were outside. So we were able to come up with some creative out-of-the-box ways to provide extension. If that's what we have to do for this BFRDP project, then I guess that's what we'll do.

Jamie 20:28

Randall, I really think that your tale of extension success here is really one that we can all follow. I like the idea that you identified an opportunity in this particular case, and maybe an underserved Spanish-speaking community where you could help get beekeeping into their lives. I think that there are lots of opportunities like that across the US. Here in my little lab, we're doing a self-reflection where we know we need to expand, we see this opportunity and we're trying to create those very community connections and partnerships that you're mentioning. Amy is obviously the key component in all of that, she's the one making it happen. But we're excited about where it's going on our end. And Randall, I think you provide a really good case study of how things can be done through your work there in Iowa State University.

Guest 21:11

Yeah, absolutely. Thanks. And if people are interested in learning more or reaching out to me, they can do that. My email address is Randall@IowaState.edu. Just my first name. And I also have a pretty active Instagram [@IowaStateBees](https://www.instagram.com/IowaStateBees). So feel free to follow me or reach out because I'm happy to talk to people about this topic.

Jamie 21:33

Well, Randall, we will make sure and link information about you and your program. We'll make sure to have your Instagram contact as well as your email in our show notes. Listeners, if you're out there, you can access the show notes through listening to the podcast at our website. That's where all the show notes are. So make sure you join there or again, go to your favorite podcast platform. Nevertheless, Randall, thank you so much for joining us on this episode of Two Bees in a Podcast. I really have enjoyed listening to you talk about this opportunity that you're addressing head-on in Iowa.

Guest 22:05

Thanks for having me. This was great. You guys are great.

Jamie 22:08

Thank you so much. You hear that Amy? We're great.

Amy 22:12

I heard that. We know. Thank you.

Jamie 22:15

Everyone, that was Randall Cass, a bee extension specialist with honey bees and native bees at Iowa State University where he works with Extension and Outreach.

22:28

Have questions or comments? Don't forget to like and follow us on Facebook, Instagram and Twitter @ UF Honey Bee Lab.

Amy 22:39

Alright, so it's our Five Minute Management time. And today's question, I'm taking a pause because I'm looking at my phone so I can do the timer. Alright, so today's management--

Jamie 22:52

Just count in your head, Amy. It's real simple.

Amy 22:54

I can't do that and listen to you at the same time. Okay, so how much time should I expect to put toward beekeeping? And begin.

Jamie 23:02

Alright, that's a little bit of a tricky question. And the reason is because there's kind of three scales of beekeeping. There's the hobbyist beekeeper who's keeping one to 10 colonies and the sideline beekeeper who's keeping about 11 to 250 or so and commercial beekeepers who are 250+ colonies. And the other trick is it's going to vary based on season. I happened to write an article for American Bee Journal years ago on time commitment for beekeeping. And we'll make sure and link that article in the show notes. But just to summarize what I say said in that article, there's a really neat table where I tried to figure out and present how long you can expect to spend working bees as a hobbyist, sideliner, or commercial beekeeper depending on the season that you're in. So let me give an example. If you're a hobbyist beekeeper in spring, you can expect to work up about up to about three hours for about 10 colonies every seven to 10 days. So if you've got 10 colonies, you can expect to be in them about three hours about once a week. In summer, it's about the same thing except it slows to about once every one to two weeks. So instead of every seven to 10 days, it's about every seven to 14 days. In fall, it's about three hours still needed to work those 10 colonies, but you'll work them only every four to six weeks. And then in winter, it's about three hours to work those 10 colonies but you'd only do it every six to eight weeks, maybe even longer. So it takes the same amount of time to work those colonies, it's just you're not visiting them as frequently. So hobbyists in spring, it's weekly, summer, it's maybe every two weeks,

fall, it's every four to six weeks in winter, it's every six to eight. So using that as the basis, let's move up to the sideline. Sideliners are going to work about 50 hours for 250 colonies every seven to 10 days. So keep that 50 to 50 ratio. 50 hours for about every 250 colonies. In spring, it'd be about weekly. In summer, it's about every two to three weeks. In fall, it's about every four to six weeks. And in winter, it's about every six to eight weeks or longer. So 50 hours, 250 colonies, either weekly or every other week or so forth. Now, commercial beekeepers will scale that up still. It takes about 220 or so hours to work about 700 colonies and follow the spring, summer, fall pattern, right? It's about that much time every seven to 10 days in spring, about 120 hours for 700 colonies every two to three weeks through summer, every four to six weeks through fall, and every six to eight weeks or longer and winter. So that's the math that I typically use. Hobbyists, it's about three hours per 10 colonies, sideliners, it's about 50 hours for 250 colonies, and commercial beekeepers, it's about 120 hours for every 700 colonies. And spring, summer, fall winter goes from weekly to every one to two to three weeks, and then fall every four to six and then winter every six to eight or longer. So that's kind of how I present that information in the table. And it's really just a rough estimate. Obviously, it can go one way or the other. It all depends on your number of colonies and what you're managing those colonies to do. But that's a reasonable estimate to expect, depending on what level of beekeeper you consider yourself.

Amy 26:25

Awesome. And that table is on your resources. Is that what you said?

Jamie 26:29

It's an American Bee Journal article that I published years ago. We'll make sure and link that from our website and make sure it's in our show notes so people can have a look.

Amy 26:37

Awesome. I think you did it. You got a minute and a half so we could talk about whatever else you want to talk about for the next minute and a half.

Jamie 26:43

Maybe I went too quickly. Maybe I'll slow my speech down next time.

Amy 26:48

Well, now let me ask you this. What about someone with just one or two colonies?

Jamie 26:52

If it's one or two colonies, you wouldn't work but about an hour and then you'd follow the same pattern in spring. It's about an hour a week in summer, it's about an hour every two to three weeks, in fall it's about an hour every four to six, and in winter, it's about an hour every six to eight or more. Really simple basic calculation there.

Amy 27:11

Yes, I can't do mental math very well. So it's probably more complicated for me.

Jamie 27:17

That's why I'm here.

Amy 27:18

Right. Well, there's your Five Minute Management.

Stump The Chump 27:27

It's everybody's favorite game show, Stump the Chump.

Amy 27:37

Jamie, I feel like every time we do a Q&A, I don't get any less awkward in every of the segments. But that's okay.

Jamie 27:44

That's why we have you. That's your purpose. It's just to awkward your way through this podcast. Yep.

Amy 27:50

Yep. I that's what I do with life, just awkward my way through life. So let's continue. So this is the Q&A, I've got three questions for you. And they're really interesting questions. I'm happy that we've been doing this for a year because our listeners are getting really in-depth with some of their questions, which is very exciting. So the first question we have, this person usually overwinters with two deeps. This year, this past winter, they overwintered in a single deep, and they're wondering how to best prepare for the spring. They're wanting to eventually have one deep and one medium. So when does this person put the medium on? Or what do you recommend for getting prepared?

Jamie 28:29

Yep. So based on the question, the listener then managed the colony overwinter in one deep and wants to make the standard brood chamber be a deep and a medium. When do they add that medium? So what I like to do is I would add that medium when I see evidence that nectar is coming into the colony because it takes resources to construct comb. In that medium of foundation, I believe, if I'm not mistaken, they're talking about putting a medium super on that is just foundation. So either you're going to put it on and feed the bees so that they'll draw out that comb or you're going to put it on when the resources are coming in and the bees are going to use the incoming resources to draw out that comb. So if you want to feed the bees, to have them pull out that foundation and it be your second box that is part of the brood chamber, then you can put it on the moment it starts getting warm enough for bees to take sugar syrup with regularity. For us in Florida, that could be as early as February, but depending on where this listener is, it could be as late as April. But if you're going to wait on the incoming resources, there are really good ways to figure out if resources are coming in. First of all, you can look at the activity of bees at the entrance and see if it's exponentially increased. Number two, when you are working the frames in that existing brood box, if you turn one sideways so the face of the frame faces down, incoming unripe nectar will actually rain from the comb if you lightly shake the comb. And that's evidence that there are incoming resources into the hive because you have this unripe nectar falling from the frames. And that would be a signal to you that it's okay to put on this medium super so the bees can pull out that foundation, I believe, also, the questioner has an additional question related to this whole strategy too, right?

Amy 30:27

Yeah, so this person also asked if they also plan on adding a queen excluder and another medium super. So would they add both the medium boxes at the same time or space them out?

Jamie 30:39

Okay, great questions. So let's go back to the original idea. They've got a single brood box, and they want to add a medium super to that brood box to have both boxes be, collectively, the brood chamber. And we talked about either feeding to make that happen or waiting for the resources to come in to make that happen. Now, they want to add a second medium super, but separate it from the rest of the colony using a queen excluder. And so you would add a queen excluder and that second medium super when that first medium super that you put on, the one that's part of the brood chamber, when it is about 70 to 80% pulled. That tells you that there are enough bees in the nest to start constructing the comb in that lowermost medium super. Therefore, it's time to add that second one. And you would know that you would have the population that's sufficient to move up into that second one. I would not add them both at the same time because it's unlikely that coming out of winter and going into early spring that the colony will be strong enough to occupy its first brood box, that one deep, and then that new medium that you put on as a second brood box and then, again, a queen excluder in that second medium that you put on. So I usually add new supers when I see the uppermost super already containing about 80% pulled comb and a lot of bees. Then you can throw on your excluder and put that new medium super on.

Amy 32:09

Got it. Makes sense. Alright, so the second question, we actually received this in an email yesterday. What is the difference between the standard hive inspection of taking apart a hive and putting it back together, and the terminology, I guess, that you and other entomologists use when you dissect a hive?

Jamie 32:28

Yeah, I got this question directly. It's because of some of the language that I use and I blame my Georgian tongue, I use certain terms, okay. But there is standard inspection where you're working a living colony and you're looking at what's going on, is there a queen, are there eggs, is there incoming pollen and nectar, is the comb constructed, disease and pest pressures, etc. So I don't consider that a hive dissection or a colony dissection. When I use the word dissect, it's probably a Jamie-ism and not even really an entomological term. When I use the word dissected colony, what I mean is that I am conducting an incredibly thorough inspection, usually for research purposes. So I am either going in and counting all the mites in the hive, or all the beetles in the colony, or as I've done in experiments past where it was necessary to actually euthanize the colony and literally go into it and count, literally count the number of adult bees and the number of brood cells and the number of cells containing pollen or honey. So when I use the word dissect, I'm emphasizing a far more thorough inspection than just an ordinary inspection would be. It's always those dissections as it were, those inspections, the thorough inspections always come from a research angle where I'm collecting way more information on that colony than I would if I were just managing it from a beekeeper perspective. And the way that I think about colonies, the colony is actually the beast, right? When we use the word dissection, we think of things like autopsy where you got a human that you go into after they're dead and you try to figure out

what killed them. You can do the same thing with honey bees, right? You dissect a honey bee, you look at their brain, you look at their ventricular, so whatever. Well, likewise, a colony can be considered a beast. And so when you go into a colony thoroughly trying to determine what's going on in that colony or dissecting bees for tracheal mites, counting the number of bees in the nest, all of this more thorough investigation for research purposes is what I consider a quote-unquote dissection but it's a Jamie-ism, a colloquialism as it were, but not really a term that has much meaning beyond what I've scrapped to it.

Amy 34:54

That's fair. I like that, Jamie-ism, I'm going to start an Amy-ism.

Jamie 34:59

Just put a J on it. It could be a Jamie-ism.

Amy 35:02

Oh, my goodness. Okay, so the third question we have is that, this is I think from one of the agents here in the state of Florida. If I have a large hive with a small Varroa load, should I use a hard control to target the small percentage of Varroa? Or should I use a soft control to maybe stress the bees less? Or does it not make a difference?

Jamie 35:22

Yeah. So, I don't know for sure what the small Varroa load is. But one of the things that I'm going to point out is that we don't look at the number of mites in a colony to make the treatment decision, we look at the ratio of mites to bees in the colony to make a treatment decision, because you're right, you could have 3000 mites in a colony, but 60,000 bees. And that's different than having 3000 mites in a colony and 3000 bees. So in this case, the questioner is saying, I've got a strong colony, but relatively few mites. What should I use to treat it? And I would say, don't look at it from the number of mites you have in your colony, but look at it from the ratio of mites to adult bees. And the general rule of thumb is three mites per 100 adult bees is what you need to address chemically. And you can determine that from powdered sugar shakes or alcohol washes. There are a handful of ways to estimate that number of Varroa to number of adult bee ratio. Once you have that, if you're two, one, or zero mites per 100 adult bees, I wouldn't do anything. I'd just continue to monitor but if it's three mites per 100 adult bees, then I would absolutely use something. I wouldn't really look at it from the perspective of how large is the ratio? I would take that into consideration, number one, but I would also look at the season and what products might work best given the season. So let me turn that into some examples. If I have 10 mites per 100 adult bees, I'm going to look for something that really is going to knock down mites fast. And that would be some of the more synthetic acaricides, ApiVar, some of the thymol-based, Apiguard, things like that.

Amy 37:08

And those are considered the hard controls?

Jamie 37:10

Well, I think that that's what this person's meaning by hard. They probably mean by anything that's in a plastic strip that you have to hang into a brood nest, something like amitraz that's sold as ApiVar. So I

would look at something that has a demonstrated history of killing mites pretty instantly on contact. But if I have that same ratio, 10 mites to every 100 adult bees, if I have that same ratio in, say, winter, I might say, "Well, I'm going to use oxalic acid because I'm in the temperature range and oxalic acid is something that I can use this time of year and boasts a really good efficacy, as long as there's not much brood." So I don't really make that decision based on the number of mites in a hive, I make it based on, what's my ratio, and what time of year? And I make that decision with an eye toward ensuring that I rotate chemicals. And so you'll hear a lot of commercial beekeepers say, "Well, there's only one way to, quote, rescue colonies that have high ratios. And that's using some sort of amitraz-based product." And of course, in the US, the only legal amitraz-based product is ApiVar. But they would say if I had that same ratio outside of that window maybe in winter and things like that, I could look at things like Apiguard or oxalic acid or formic acid-based products and things like that. I will add, Amy, though, the way that I really recommend Varroa control is the Honey Bee Health Coalition has a remarkable guide on sampling colonies for Varroa, as well as making treatment decisions once you have those numbers in your hand. And I think it's probably the best Varroa Management Guide I have ever read, ever, ever, ever. And so we'll make sure and link that in our show notes because it will give you a really good strategy for estimating the ratio as well as determining which treatments to use, depending on your year and your ratio. And if you follow that guide, it really reinforces chemical rotation or treatment rotation so that you're not using the same thing over and over and over and you're hopefully limiting mite ability to become resistant to the products that you've been using in your apiary.

Amy 39:15

Awesome. Couldn't have said it better. Thank you so much. All right, everyone, be sure to continue asking questions, send us an email, send us a message on Facebook, Instagram, or comment on Twitter. Hey, everyone, thanks for listening. Today, we'd like to give an extra special thank you to our podcast coordinator Lauren Goldstein and to our audio engineer James Weaver. Without their hard work, Two Bees in a Podcast would not be possible.

Jamie 39:48

For more information and additional resources for today's episode, don't forget to visit the UF/IFAS Honey Bee Research Extension Laboratory's website ufhoneybee.com Do you have questions you want answered on air? If so, email them to honeybee@ifas.ufl.edu or message us on Twitter, Instagram or Facebook @UFhoneybeelab. While there don't forget to follow us. Thank you for listening to Two Bees in a Podcast!