

# Episode 128 Mixdown PROOFED

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## SPEAKERS

Amy, Stump The Chump, Jamie, Serra Sowers

### 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 00:46

Hello, everyone, welcome to this segment of Two Bees in a Podcast. It is January 2023, and we're happy to be back and happy to be starting this season this year. Jamie and I wanted to talk about the state of honey bees in the world. I mean, Jamie, every single time we're talking about bees, we're always talking about how do we make our bees better? What's going on? Why are our bees declining? And so first, we wanted to talk a little bit about our plans for 2023, some of the segments that we have, and then we wanted to kind of go into what's going on in the industry. And so we thought we'd take this segment and this opportunity to just have an Amy/Jamie segment to discuss what's going on.

### Jamie 01:30

That's right. Welcome to 2023 guys. You're just getting an overload of me and Amy this first episode, but I hope it's something that you'll find valuable. We just wanted to share some ideas on the direction we want to take this podcast this year based on feedback from you guys, as well as just kind of launch into our general feelings about where things stand in the bee world.

### Amy 01:50

Jamie, I like how you say they're getting an overload of Amy/Jamie. But at this point, they've all listened to like 125 episodes of us.

**Jamie 01:59**

Maybe an additional overload. Maybe this is the dessert.

**Amy 02:02**

That's right. That's right. Well, we'll start with dessert at the beginning of the year. And then at the end, we'll have, I don't know, the appetizer.

**Jamie 02:08**

it only gets worse from here, right?

**Amy 02:10**

That's right. Oh, my goodness. Okay, so for 2023, I mean, so what are we going to do, Jamie? I mean, we've had people reach out to us, and so many people have different recommendations. I've even had people ask about doing just a Q&A for the entire segment. I mean, if that's what people want, that's what we'll give them. Right? And so there were a couple of ideas that we just wanted to run by our audience. And I'd be interested to hear their feedback, I guess, after listening to this piece.

**Jamie 02:41**

Yeah, I mean, we've had a few things that have kind of popped in our head, we tried to solicit feedback from our listeners. And I want to emphasize something, Amy, that you and I emphasize really 1000 times on this podcast. This podcast is not about you. It's not about me, we don't do it for ourselves, we do it to help beekeepers, we do it to help bee colonies. And so we want to make this podcast folks what you want to hear. We want to make a podcast that you'd be willing to listen to with regularity as well as share and recommend to your beekeeper buddies. There's no kickbacks on this end or anything. We truly want to help beekeepers. And so a couple years ago, Amy, we started our Five Minute Management and people really seem to like that. So in 2022, we did a monthly management calendar, where once a month, we had a segment specifically about the kind of thing that you would do that time of year, regardless of where you live in the world. Hey, if it's early spring, you need to think about this. If it's late summer, you need to think about this. And that was very popular. And as you've stated, you and I find that anytime we talk about management-related issues, or anytime we talk about our Q&A type stuff, we get a lot of positive feedback from listeners on that. So we really want to emphasize stuff that helps you beekeepers, and one of the things that came up, Amy, was just this idea of making money with bees. Maybe once a month, we set aside an episode and talk about a different way that you can make money with bees. So maybe the first month, honey production. The next month pollination. The next month, wax candles. The next month, pollen. Whatever it is. You and I, and our podcast coordinator, Serra, have brainstormed lots of different ways to make money with bees, and then we, the three of us, specifically, aren't going to talk about it ourselves. We're going to bring an expert in in that field. So some beekeeper who has experience as a honey producer, a beekeeper whose job it is to make packages or a beekeeper who's a queen producer. So as we go through these different ways of making money with bees, we want to bring to you on this podcast folks who have done those different things successfully. So we've got this really great lineup. I think we've come up with, I don't know, 15 or

so ways to make money with bees from bee removal services, all the way to selling beekeeping equipment. So if you'll follow us throughout this year and even a little bit beyond, we're going to really emphasize that, hopefully, to the great benefit of our listeners. And Amy, another thing that's kind of come up that I wanted to ask you about is interviewing beekeepers outside of making money with bees. Let's bring lots of beekeepers on to this podcast. Beekeepers from all around the world. So Amy, why would we want to do that?

**Amy 05:16**

Well, it's funny that you mentioned that because I was going to say that we haven't had a lot of beekeepers just coming on to tell their stories. I know that, even you and I, we have our own story that got us into the honey bee world. And I always love talking to beekeepers, meeting beekeepers and hearing their story because sometimes they're fifth, sixth, seventh generation beekeepers, sometimes they just got into beekeeping. We have beekeepers in urban environments, in rural areas. And so it's always just kind of fun to hear their story. Some people are beekeepers full time, while others are farmers on the side. And well, I guess a beekeeper is a farmer, right? And so some of them are cattle people, some of them are bee people plus cattle people. And so it's kind of fun to just talk to beekeepers. And I'm really excited for that piece of just interviewing beekeepers to let them tell their story.

**Jamie 06:10**

And one thing that I think that it's worth you guys hearing out there is, of course, Amy and I work in Florida. But this is not a Florida-centric podcast. We were looking at some Spotify data about a week ago. And last year, I believe, Amy, if I'm wrong, correct me, that we had beekeepers from over 53 countries or are around 53 countries listen to us. So that's beekeepers from all around the world. So we don't just want to put Florida beekeepers as our guest or US beekeepers as our guests. We want to have beekeepers from all around the world sharing their stories and experiences. And so Amy, you and I sat down last week with Serra to talk about, well, where do I have contacts? Where do you have contacts around the world who can give us some ideas on great beekeepers to interview. So listeners, we need your feedback. We need you to go on to our social media accounts or email us and say, "Hey, Jamie, Amy, consider interviewing this person. This person is a beekeeper in Turkey. And they've got this really unique way that they do things or there's a beekeeper here from Korea, they extract honey a way that I've never heard of before." But we need you folks to tell us who those beekeepers are who we need to find and bring onto our podcasts because this podcast is about you and for you. So we need that input.

**Amy 07:27**

So the other thing I wanted to bring up, Jamie, so we have had a podcast coordinator. Her name is Serra Sowers. And her voice has come up a couple of times in some of our podcasts. But we really wanted to give her the opportunity to start interviewing some of the beekeepers and starting to tell some of their stories as well. And so something new that we're going to try to do for 2023 is to have her come on and do segments every once in a while. So you will hear Serra's voice as a host for the podcasts that we have. And so, again, we'd love to hear your feedback, whether it's, again, it's not the



Amy and Jamie show, but we try to provide as much content as we can, and we'll try to stay consistent. But we did want you to know that we're going to provide this opportunity to have Serra host a segment every once in a while as well.

**Jamie 08:15**

Are we going to have to turn this into Three Bees in a Podcast?

**Amy 08:17**

Oh my gosh, should we change it? Three bees, four bees? Oh, we've had Cameron on here.

**Jamie 08:21**

A Hive in a Podcast. I know where we're going. A Colony in a Podcast, before long.

**Amy 08:25**

Totally changing. That's so funny.

**Jamie 08:28**

We've got to change our merch.

**Amy 08:31**

Like we actually have merch.

**Jamie 08:31**

We don't actually have merch, guys, don't panic.

**Amy 08:34**

Oh, my goodness. Okay, so what do you think, Jamie? Should we continue the Q&A in every episode?

**Jamie 08:39**

Yeah, maybe so.

**Amy 08:40**

I think our listeners would stop following us if we didn't do Q&A every time.

**Jamie 08:44**

It's the chump part that gets me. No, I'm just kidding. We do get good feedback on our questions and answers. And again, it's really our way to interact with our listeners. You guys have questions, we do our best to answer. I know we told folks at the end of last year that hey, we get more questions than we are able to answer on air in the podcast. But please don't let that discourage you from sending us questions. We want your questions. We try to pick out questions that we feel will be relevant to a lot of folks as I try to answer. And Amy and I really enjoy that we have learned a ton just answering questions that you ask. So we're going to keep Stump the Chump. It seems to be one of your favorite things out



there, listeners, and we're grateful that you send in questions. Keep doing that. So, Amy, could you emphasize how we can hear from our listeners and how they can help us make this podcast better?

**Amy 09:33**

Keep doing what you're doing in sending us emails, make sure you message us on Facebook, on Instagram. We are quite active on both of those platforms. And you can give us a call and, I don't know, leave me a voicemail with a question if you want to. Any way that you can communicate with us. Our email is honeybee@ifas.ufl.edu. And if you are not going to remember that, that's okay. You can always go to our website, Ufhoneybee.com and send us a message. And so we would love to hear from you. This entire podcast is for our listeners. And so anything that you find interesting, if you have a beekeeper that's been a great mentor to you, if you have a beekeeper that you look up to, or if you yourself are a mentor to other beekeepers, send us a message and maybe we'll have you come and talk about your beekeeping journey.

**Jamie 10:25**

So folks, kind of as a summary for 2023, we're going to try once a month to have a segment on making money with bees. Once a month probably have a segment on interviewing beekeepers to allow them to tell their stories, we're going to include segments from our podcast coordinator, of course, like before, Amy and I are going to continue reading research manuscripts to try to bring to you the scientists who are conducting specific projects we think will be of benefit to you. We'll have our question and answer segment in every podcast episode. And, of course, we want you to go onto our social media accounts. Let us know what you think about the podcast, give us some questions, rate us, whatever it is to help spread the news because this podcast is for you. So help us make it what you want it to be. And so Amy, we're going to segue a little bit about what we're doing in 2023 to just talk a little bit about the state of the beekeeping industry. Now, that's not specifically here in Florida or even in the US, but just about the industry in general, the trends that we see, this issue of bee losses. And so what are some thoughts that you have about that?

**Amy 11:29**

Well, my first thought is I just can't believe we've had this many podcast episodes, and we still have stuff to talk about. Like I'm still amazed that we can just sit and continue talking. And of course, I always tell people, especially non-beekeepers, I tell them if you ever meet a beekeeper, that beekeeper is probably going to talk to you for hours. They can just talk your ear off because there's so much to discuss. But as far as the industry goes, so we've heard it over and over again, even people who are not beekeepers will ask, what's going on with the bees? Are they dying? We heard that there's something that's killing them. And so we want to be able to help but we're not really sure what that is. I mean, there's always discussion about the honey bees declining. Other topics we've discussed are just prices, especially prices of equipment, or the prices of honey, right? So there's prices on both sides. During COVID, especially, I don't know if you remember this, Jamie, but when COVID started, it was really difficult to get smokers, and all of a sudden the cost of wood started going up. Our entire supply chain just kind of wonked out. And who knows? Like, was anyone expecting that to happen? I don't

think so. What else do you think we have kind of been dealing with lately that we've just been talking about with the honey bee industry?

**Jamie 12:53**

Well, gosh, I think, Amy, when beekeeping and the beekeeping industry kind of come up, in general, it can be very sour, it can be very gloomy, it can be a lot of doom associated with it. And it can be a very discouraging topic, right? Just this past year here in Florida, specifically, we've had to deal with a couple of hurricane situations, seems like increasingly so over the last couple of years, where colonies get hit. We know that in Florida, hurricanes may be a common thing. But there are other natural disasters around the US and around the world that can take out colonies. I know some other issues that kind of go in that doom and gloom discussion with beekeepers. Oftentimes, it's this idea of lack of forage. There's just an increasing number of colonies in some places and higher demand, but maybe a restriction and access to certain lands. And as a result of that, bees, maybe more bees are competing for fewer resources. And it could just be a really difficult topic. And then, even peripherally, at least here in the US, we start getting those honey bee versus native bee discussions. And I'm even aware of people getting quite angry about that. And then where honey bees aren't native, this idea that maybe they shouldn't even be kept around public lands and things like that. So the point that we're kind of trying to make here in this little first part about the state of the industry is it's easy, when you kind of look at the industry from the outside, to think about bees dying, natural disasters, bad prices, honey bees are taking it on the chin, these discussions about native bees, it's just easy to get discouraged. And one of the points that I make is almost every time I'm invited to speak somewhere, they want me to speak about the things that are killing bees. Or think about all the times, Amy, that you've been on interviews recently, the radio, the newspapers, anything, are they ever come in to ask you, "Hey, why are bees doing so well?" It's always, "What's killing bees now?" And I think you and I are starting this idea about, we are cognizant of that, we know that there's a lot of things going on in the industry that we're going to try to help walk you through with this podcast. But on the other hand, on the other hand, if you're a glass-half-full person, you can't help but look at the industry and marvel at some of the amazing things that are happening. In my opinion, the good with our industry, by far, outweighs these kind of tough things to discuss. And, Amy, you and I, before we did the segment, you and I just wrote down just very quickly, some things that came to mind that really show, what we believe, to be a positive trend in our industry. And we think things that are going to help the industry in general, as a whole, and that we think things are looking up. So maybe rather than us getting together all the time talking about all the terrible things that's going on with the world, we can look at some of the positives and know that there are significantly brighter days ahead. So, Amy, what are some of those things that we kind of threw quickly on paper, just to put some positive spin on this discussion?

**Amy 15:55**

Yeah, for sure. I went to Vancouver, I was in Vancouver, Canada for a conference, it was the 2022 Entomological Society of America Conference. And when I was there, it was the first time I had been to that conference. And so I almost expected not to see anyone I knew. And I was just wondering, "Okay, well, what let's take a look at some of the honey bee talks." And there were a ton of really amazing, awesome honey bees specialists, that, I mean, just not even at the universities, but people with the



USDA were there, people with an industry were there. And it was really cool to connect and just meet all these honey bee specialists doing all these amazing things, especially about having extension programs, some of them, and share their instructional courses and what that looked like. And then, of course, there was a very heavy focus on research on honey bees. And it was just really quite amazing to see that happening. And I don't know I haven't been, I don't think, in this industry long enough to see that. But has that always been the case, Jamie, as far as just having like that many extension people and that many people teaching beekeeping classes at the university level?

**Jamie 17:04**

So it's funny you asked that question, Amy. So, before I was hired, I was hired in August 2006 here at the University of Florida, and I would say 10 years before that, and backward, so maybe from 10 to 20 to 30 years kind of before that period, people have referred to that period as kind of the golden age of beekeeping. Varroa wasn't here, beekeeping was easier, there were lots of bee researchers and extension specialists, etc. And then, Amy, I've watched it with my own eyes because as an undergraduate and a graduate student, I was worried about getting a job and there were fewer and fewer bee jobs. And I remember getting hired here at UF and another bee person telling me, "Jamie, you probably just got the last honey bee job that will ever exist," because bees, honey bees were falling out of favor. And as bee scientists and bee extension specialists were retiring, they tended to be replacing those folks in entomology departments with molecular biologists or things like that. The hot topic that everybody was getting excited about. And so replacing bee people with bee people was a very low priority. And so, again, I vividly remember talking with, then, at the time, senior bee scientist, he said, "Jamie, you probably got the last bee job. It will be kind of a dying breed." And then shortly after that, in November of 2006, is when, quote, colony collapse disorder sprang into existence. And since that time, there's been an absolute explosion in extension research and teaching activities. And of course, I didn't live 50 years before I was born. So I can't say with absolutely --

**Amy 18:39**

You didn't?

**Jamie 18:39**

I know, what a profound statement, maybe the most profound statement that anybody's ever heard on this podcast. But what I feel, so I can't say this with absolute knowledge, but what I feel like I can say, at least in my lifetime, there's more extension research and teaching on bees now than there ever has been in my lifetime. Just thinking about it from a university perspective, there are more bee labs than I've ever seen exist, there are more bee scientists at USDA labs than I've ever seen exist. And again, when people think of scientists and people from universities, they almost always think about research, but there's been a huge explosion and demand for bee courses at universities. Here at UF, we've talked about Dr. Cameron teaching, nine different courses on bees and beekeeping. And of course, you working in extension, me working in extension, there's just been a huge explosion of extension activities, and it just seems like it's more now than it's ever, ever, ever been. So the amount of resources available to beekeepers to me is great. Think about it. We're doing a podcast on bees. Twenty years ago, no one would have ever thought about that.

**Amy 19:45**

I know.

**Jamie 19:48**

There's websites and just all kinds of things about bees and beekeeping that's just exploding out of this issue.

**Amy 19:56**

Well, and I also think, it used to probably be, just like where you're at, you have a split appointment where you do all three, where you do instruction, research and extension, but I feel like even just during my time at the University, I mean, I've been with the University for about seven years now. And even then, there have been more 100% extension personnel. I can name a couple, Ana Heck, in Michigan, Randall Penn, he's in Iowa, they're both 100% extension, which is really cool. I know that Cornell University has 100% extension. I know that California and Oregon, I think Texas A&M has one, it's just really amazing to see. And so we've all started little working groups off to the side to work together on trying to figure out what extension or what teaching or what research topics there are out there. And so we can all kind of work together, which I think is really neat. And not just from a US standpoint, but even, I don't know if you want to talk about COLOSS and the extension initiatives, the instruction and research initiatives on the colony loss, the COLOSS scale as well.

**Jamie 21:05**

Yeah, COLOSS is a really interesting organization that I've been fortunate to be a part of, almost since the beginning. I kind of joined it a year or so into its infancy. And it's just an international organization that's absolutely exploded. It's originally kind of Eurocentric, a lot of European scientists and European bee people involved but it's a research and extension networking organization, where bee people like me, and like you, Amy, kind of come together multiple times throughout the year and dream up new projects and dream up new extension initiatives. So just like what you're saying, this isn't just an explosion in the US, there's an explosion of bee research extension and teaching from very informal activities to more formal activities, really all around the world. And you and I are kind of discussing this from the academic standpoint, more bee scientists, more extension specialists, more bee instructors, but there's also been a huge explosion, at least, in numbers, of beekeepers. Right? I mean, this is kind of right up your alley. I remember when I got hired, again, in 2006, there were 1100 registered beekeepers in the state of Florida. Now, there's over 5000. We've gone from 100,000 colonies in Florida when I got here, and I think when migratory beekeepers are in the state, if I saw a recent number, maybe 800,000. That's eight times more. And so talk a little bit about all these new beekeepers who are coming into the system now.

**Amy 22:29**

So I feel like a lot of the new beekeepers come from various backgrounds, right, which I think really has benefited them because they come in with all these great ideas of just different types of hives that they work with, different ways that they work bees. It's just really been amazing to see the number of



beekeepers with lots of creative backgrounds coming with creative ideas and just trying new things. And I think that's kind of the beauty with beekeeping. There's definitely a science to it, but it's also an art. And they always say that thing, Jamie, where you ask 10 beekeepers a question, you ask 10 beekeepers the same question, and you end up with 15 different answers. Right? And so I think that there is something to say about that. And I think that that's really fun. I love hearing creative ideas, when beekeepers maybe go against the traditional methods of keeping bees. And so I love hearing all that. So keep them coming and own it when you're doing that stuff, which also actually brings me to social media, because social media is also a very creative way that beekeepers have been able to be more visible and really just expose the general public to bees as well.

**Jamie 23:38**

Yeah, I'm certainly no social media expert.

**Amy 23:42**

I know that.

**Jamie 23:44**

But I will say there's, obviously, an absolute explosion of folks who are posting stuff about bees on social media. I mean, it's really produced kind of bee stars, so to speak, where people are posting YouTube videos, and they've got thousands and thousands and thousands of followers, a lot of them being just beekeepers themselves, commercial beekeepers, sometimes hobbyist beekeepers. I know that we post on Facebook, Twitter and Instagram, through our @UFhoneybeelab account. Right? UF honey bee. So, it's like that gives me the opportunity, when I'm looking at our stats, it gives me the opportunity to browse and see what's going on. But there's just so many creative beekeepers using social media to teach. Now, that's a plus and a minus, right? So it's a minus because just because you've got the ability to put stuff online doesn't make you right, right? But it's a plus because we've seen massive and rampant creativity coming through these individuals. We've seen great comments, great ideas coming out from the feedback from others who are subscribing to this, and I think it's going to only grow and ultimately, kind of through fits and starts and maybe some bumps and bruises, I think it's going to make our industry better because it's putting new ideas on the table. It's sharing with folks who otherwise didn't know about bees, and I really, I see this, ultimately, as a net positive. And just some of the things that come up to me is just through the social media efforts, I've become aware of new technologies that are coming out in the bee world or new collaborations that are forming, not only amongst beekeepers, but amongst bee scientists and amongst bee scientists and beekeepers, and industry folks and extension specialists, it's just there's so much collaboration being fostered. So it's easy, kind of to focus on the doom and gloom in the honey bee world, but we just overlook some of these great things that are happening with more people, with a diversity in people, when we got diversity in thought, we've got diversity in location and background, it's just going to lead, ultimately, to a better industry at the end of the day. And Amy, one of the things I think as we kind of wind down this segment is not only that, but there's more funding opportunities for some of these creative ideas. Historically, we see things like research grants be funded. You've got a good research idea, then you can pose it to a federal agency or state agency or whatever. And those ideas might be funded. But

you've been successful, very recently with an extension grant, but not only you, but colleagues of yours around the country and we know around the world, even through like COLOSS, or putting together massive extension grants or teaching grants. Talk a little bit about that because I think those things are going to lead to creativity, not just in the research world, but in the teaching and the extension world.

**Amy 26:30**

Right. I mean, even before going into discussing the grant from the University perspective and my grant that I received but beekeepers are able to apply for grants. And so we've seen that increase as well. They do have farmer and rancher grants that are out there and collaborating and working with your local university or local government entity could serve and benefit the whole industry, just because beekeepers can apply for those grants just to try something out. So if you're wanting to try something new in your operation, if you're interested in applying for grant, I can almost guarantee you, you can communicate with your local extension or local research or local instruction faculty, and they should be able to help you and maybe walk through that process as well. So I think, before jumping into the grants to discuss specifics on University grants, beekeepers are also able to apply for grants. And I think that's a really, really cool thing. But speaking about grants, specific for teaching an extension, there are many grants out there. And it's been really fun to see the different types of grants, especially for extension, and teaching. So with extension grants, those grants specifically focus on workshops. So there are a lot of grants for workshops, for materials that provide scholarships for beekeepers, or non-beekeepers who want to get into bees. And so we've kind of seen that grow a bit. And we've also seen the teaching grants grow, which I thought had been really interesting because they really work with students. I've seen teaching grants that connect students to beekeepers. And so it's kind of a win-win situation where the beekeeper gets some help on the side, and then the actual student will go and they'll learn all the things that they need to know about beekeeping and the industry. And so I think it's just been really fun to see the grants, again, like you mentioned, that are not research-specific grants, but focus more on the people, the individuals who can get mentorships, who can get scholarships to hold these workshops. And so it's just been kind of fun to see the grants that have come out as well. So, Jamie, what do you think? Do you think that there, I mean, we could talk all day, right? And so there are just so many things that are going on. And we're hoping that, in 2023, we can highlight a lot of the positives. We'll still focus on some of the research that is trying to figure out and solve problems. But we do want to focus on the positives of all these new things that can happen. And I'm hoping, I don't know, Jamie, in my lifetime, I'm hoping that I'll see beekeeping management, do you think it'll change drastically? I'm not sure. We'll see. I do. I think it's imminent. And I think all these creative things that are happening, is going to be the impetus that leads us there. So I hesitate to say it because you should never say it on the front end. But it really looks like we're in the golden age of creativity. Of course, it'll get better and better and better as there's more folks looking at it, more technologies. But I really think that this is kind of the thing that's pushing this effort forward. So folks, we're doing this for you, as I've said now multiple times in this segment, help us help you. Let us know what you would like to see on this podcast. And thank you for joining us so far, and we look forward to partnering with you as we move this effort forward. Happy beekeeping.

**Stump The Chump 29:51**

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

**Amy 30:00**

Happy New Year, beekeepers. It is 2023. Jamie, do you feel refreshed and recovered after the holidays?

**Jamie 30:08**

Yes. And older.

**Amy 30:11**

Okay, yeah, me too. Well, it's a new year, we're excited for our Two Bees in a Podcast 2023. And let's just get into our Q&A today. We actually just had two questions for our Q&A today. And then, Jamie and I kind of wanted to talk about some of the big things happening at the University of Florida Honey Bee Research and Extension Laboratory. And so we'll just get into the questions. Jamie, the first question is, this person is planning their apiary, they're wondering if crushed rock or shells would be a good ground cover for surrounding the hive. So, just eliminating the need to mow around the colonies. But is it going to cause problems or promote small hive beetles or ants or any other pests from coming and taking over?

**Jamie 31:00**

Yeah, so I like the idea of putting some sort of cover around colonies, again, just for what you said, I don't like having to cut grass close to colonies. I don't like having to weed eat close to colonies. And so those things are absolutely at your discretion. I don't think it's going to increase small hive beetle problems or ant problems, I don't think it's going to make any of them go down. I think it's going to be a neutral application. So if you have the resources and want to do it, and it's easy for you to do, then you can absolutely do it. And it will, of course, aid in management of the weeds around your hives. I know some folks who've put down carpet around their bee colonies. I know some folks who put down crushed gravel. I've even seen people just kind of put cardboard around their colonies to try to keep those weed pressures down, and I don't think any of those things benefit or hurt ants, small hive beetles, etc. So I think it's just completely whether you want to do it or not. And I'm one of those folks, personally, if I had the resources, I'd probably add that kind of stuff around my house, around my shrubbery, anywhere that I have to weed eat and don't want to. So I don't think it'll be a problem at all if you end up doing it around your hives.

**Amy 32:10**

Wait, did you say carpet?

**Jamie 32:11**

Yeah, I've seen people actually put used carpet. Yeah, they're not like carpeting it right? They're not bringing in professionals to do it. But what they'll do is they'll just have people --

**Amy 32:21**

Like an old rug or something?

**Jamie** 32:22

Yeah, exactly. People who install carpet in houses always end up with leftover pieces. And so they'll get these pieces, sometimes, and put them just on the ground around their hives. And I've seen this a lot, a lot, a lot. Right? So it's definitely one of those things that people do. A lot of people say, "Will it help against small hive beetles?" It won't. Small hive beetle larvae can crawl a great, great distance. So you're not really doing it to benefit or harm your colonies. You're just doing it to make it easier for you to maintain the area immediately around the hives. And for that reason, if you can do it and want to do it, by all means, do it.

**Amy** 32:58

All right. So for the second question that we have, this person is saying given ants produce formic acid, which you can tell me all about this because I didn't even know ants produce formic acid, is there a relationship between ants at their release of formic acid and then Varroa in a colony?

**Jamie** 33:16

I like this question because it means that someone has kind of connected those dots between ants and formic acid. Okay, so let me just drop a little nerd on you here. We all know, sorry, I get excited when I talk about nerdy stuff, alright, so we all know in biology, that there is a biological classification. And the most rudimentary form of that is kingdom, phylum, class, order, family, genus, species, right? So we know, for example, the honey bee is the genus *Apis*, the honey bee we use is the species *mellifera*. So genus species is a *Apis mellifera*. Alright. So ants are in the order, well, let's start a little higher. They're in the class Insecta. Right? So they're insects. They're in the order Hymenoptera, and incidentally, honey bees are also in the order Hymenoptera. Honey bees and ants and wasps are all related. They're all in the same order, Hymenoptera. And ants are in the family Formicidae. And they're in the family Formicidae for two reasons. Number one, the Latin word for ant is formica. And number two, ants produce formic acid. So formic, formica, is basically ant in Latin, so formic acid is basically acid from ants, right? Ant acid, not antacid that we take for our stomach problems but ant acid. So formic acid. That's where people, I guess, is where people originally noticed it. Of course, it's not -- I was going to say milked from ants -- but it's not collected from ants for use in bee colonies. That's not where our formic acid comes from. It's synthetically derived, but it's the same compound essentially. Okay. If you take an ant and squish it in your fingers and smell your fingers, you'll actually smell formic acid. It's pretty fascinating. So ants have this stuff in their body.

**Amy** 35:20

All ants? Any ant?

**Jamie** 35:20

So I'm scared to go out on a limb and say this, but I would say most species of ants have it in them. In biology, there are always exceptions to the rule. And in fact, I read when I was preparing to answer this question, that there's one subfamily specifically, that has a few hundred species that are known as the

formic acid-producing ants, but regardless, all ants are in the family Formicidae. And again, the word formica is Latin for ant, so all of this is related, right? So the questioner is then saying, knowing that ants, many ants at least, carry formic acid, is there any relationship between ants in a hive and Varroa populations because you all know that formic acid is used in some circumstances to control Varroa. So the short answer is there's no relationship between ants in a hive and Varroa populations in that same hive. And that's because the formic acid is stored in the body of the ant, it's not actually released. And number two, because the formic acid products that are used for Varroa control have much higher concentrations of formic acid than what you get out of even 100 ants meandering about the nest. So I can't imagine a situation where it would make that much of a difference. But, of course, science is fluid. So maybe, someone's already done a research project, or we'll do a research project someday that shows that I'm wrong. But until then, I cannot imagine there would be any correlation between the two. So it's really neat to connect those dots. But I wouldn't say the perpetuation of ants in a colony is a good way to control Varroa. Right. So what I'm hearing is that we should not, as beekeepers, take a bunch of ants and release them into a colony.

**Amy 36:59**

That's right, that comes with other problems, right? That comes with other problems. I don't think it's of any benefit. Absolutely. All right. So those are the two questions that we had for our Q&A today, Jamie. I wanted to talk a little bit about 2023 because we've got some big things going on this year. And I'm really excited to just share with our listeners, with beekeepers throughout the world. Some of the projects are specific to Florida and in Florida. But I do know that you are planning to be in South Africa here pretty soon. So what are you planning on doing there?

**Jamie 37:38**

Yeah. So, Amy, one of the benefits of what we do for a living is that we're able to do research or teaching or extension really all over the world. And I have a PhD student, Kaylin Kleckner, who's going to do some research on populations of honey bees in South Africa. And for those of you listening, you probably are aware, if you've been listening for a long time, my PhD actually comes from an institution in South Africa, Rhodes University. So I'm kind of rekindling that relationship and Kaliyn and I are going to go over and set up some projects there. We hope that it develops a long-term collaboration between us and colleagues there. We've done teaching programs in Thailand, I don't know that we mentioned that. We did that in early 2022. We plan to do that every other year. So we'll take Study Abroad courses with students to Thailand with us. We even took a couple of beekeepers with us last time. So I know, Amy, you and I have spoken about maybe taking international trips with beekeepers around the world. So this particular South African trip for us is just an opportunity for us to establish or rekindle some relationships there as well as study some wild populations of honey bees. But as far as 2023 goes for us we work at this land grant institution so we've got a lot of teaching programs going on, we've got a lot of extension programs going on, we've got a lot of research going on. I know that in a standard year, I speak to beekeeping clubs, I give about 60 to 65 lectures to beekeeping clubs all around the world in a given year. So if you're listening out there, you very well may see me at one of your meetings or hear me on one of your Zoom talks or something like that. And so those things are going to continue, the type of research that we've been doing historically are going to continue. I'm really excited about 2023.

It seems like every new year gives us a new opportunity to test something new, to try something new, and 2022 is no exception. And 2023 looks like it's going to be the same. And I know, Amy, even in your case, you've got some new things happening. You scored a big grant recently, and you've got a lot of things that you're cooking up. So what about you? How are you heading into 2023? And what do you look forward to?

**Amy 39:42**

Yeah, a lot of what I had focused on in 2022 was working with beekeepers ready to level up and work with their business plan. I kind of have, in my heart, a little love for entrepreneurship. And so, for fun during COVID, I started a business, and there were so many things that I learned that I realized, like, I wish I would have known all this stuff before I got into it. And I decided to kind of turn that into a program with beekeepers. And so I just received a grant from the USDA. It's the Beginner Farmer and Rancher Development Program grant. And the title is called Leveling Up. So what we're planning on doing is just providing tools and resources for beekeepers to improve their businesses. And so, by the time the end of the year rolls around, throughout the year, we'll be working on producing content and resources. So beekeepers, if there's anything out there that would be helpful for you to improve your business, if you want to learn about liability or hiring employees or just anything like that related to your business, of course, beekeeping business is what we're talking about, please let me know. I'd love to hear your thoughts on this project. But I'm pretty excited because we will be focusing on putting together a business plan, creating value-added products, marketing, which is one of my favorites, putting together videos and marketing your programs, and then just looking at the process of hiring employees. So that's kind of my love, and what I'm going to be focusing on a lot in 2023. And so, I'm really excited for that project.

**Jamie 41:16**

Yeah, that's really cool. And I really like the fact that you got collaborators on it who kind of have some of those marketing or tax or budgeting skill sets.

**Amy 41:25**

All that fun stuff.

**Jamie 41:26**

Stuff that -- you and I know the kind of beekeeper stuff, and they're able to bring some of that business stuff too. It's cool. Amy, one of the things I like a lot about our job is you really never know what that next phone call or email or in-person visit is going to lead to. So it's really easy for me and you here at the beginning of 2023, "Oh, I'm going to go to South Africa where I'm going to teach this. Well, I've got this grant." But in reality, there's no telling what this year will provide, what new opportunities might come along, what new beekeepers we'll meet, what new talks we'll give, how that might lead to new relationships and new projects and new teaching opportunities. It's just really, really cool. And we'll be thinking about that thematically as well as we approach revisiting how best to do this podcast for beekeepers. You and I, we don't do this podcast for ourselves. We don't get extra kudos for it. We really do this as a labor of love for beekeepers. So if you're listening out there, give us some ideas on





what you'd like to see, how you'd like to see this thing go. Or if you're a scientist out there listening to us and some of what we've talked about is giving you some new ideas for research projects and you want to collaborate or if you're interested in knowing more about bees and beekeeping from Amy's department, the extension side of it, or Leveling Up, we want to partner with you to provide to you and for you what it is you want to get to make your beekeeping enterprise more profitable, your endeavor better for you and for the bees. So yeah, Amy, I think it's going to be a good year and I really look forward to seeing what it has in store for us.

**Amy** 43:02

Absolutely, I agree.

**Serra Sowers** 43:08

Thank you for listening to Two Bees in a Podcast. For more information and resources on today's episode, check out the Honey Bee Research Lab website at UFHoneybee.com. If you have questions you want answered on air, email them to us at honeybee@ifas.ufl.edu or message us on social media at UF honey bee lab on Instagram, Facebook and Twitter. This episode was hosted by Jamie Ellis and Amy Vu. This podcast is produced and edited by Amy Vu and Serra Sowers. Thanks for listening and see you next week.