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EPISODE 219 TRANSCRIPT

Jamie

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

Hello, everybody, and welcome to this segment of Two Bees in a Podcast. Today, I am joined by Tara Chapman, who is the owner of Two Hives Honey based in Austin, TX. Tara, today we're just going to be talking to you about your business, the book that you had just published, and all the different things that you do in the beekeeping world. So, thank you so much for joining us today.

Tara Chapman

Thanks, I'm excited to be here.

Amy

Of course, we always start off with our guests and ask them to tell us about yourself and how you got into the honey bee world.

Tara Chapman

Yeah, I've got an interesting story. So, I am from a little tiny town in rural West Texas. And then I went to school on the East Coast and my first job out of college was actually with the Central Intelligence Agency, which is funny. Living in Austin, you say the CIA, and everyone assumes you're talking about the Culinary Institute of America. Different CIA, but I worked in intelligence for the federal government for a long time. I bounced around the government a little bit.

I spent a lot of time in Afghanistan and Pakistan, a lot in Southeast Asia and the Middle East, and then really wanted to go back to Texas. I didn’t see a path for me. Like, what was I going to do in Texas? I started long before remote work was a thing. I convinced the government to let me remote work from Texas.

So, I split time. I would do a week in DC every month. I would do three weeks in Austin. And then every couple of months, I'd go to Afghanistan for a couple weeks to a couple of months. Did that for a long time, and when I was back in Austin, I was just looking for anything that was kind of like weird Austin. And you know, at the time Austin had this very good reputation of being Keep Austin Weird. And I found this beekeeping class, and I honestly didn't know that was a thing. My granddad was a cotton farmer. So, I do come from an ag family, but there was definitely no beekeeping. I'm not a legacy beekeeper. A lot of folks that do this professionally aren't, but that wasn't me.

So, I took this beekeeping class, and I just fell in love with it and love that different harvest tasted different, you know, looked different, had different colors and textures and flavors. And so I had this idea that I wanted every neighborhood in Austin to have its own honey and wanted to start a honey company and did a cold call to Bee Weaver, which is a bee breeder in East Texas, and asked if I could work for them for a season and did that, learned a lot, learned how little I knew and then came back to Austin and then I kicked off the business from there.

It's evolved a lot over the years, but I initially set out just to start a honey company, not realizing how little money there actually is in honey. That was a lesson to be learned very quickly.

Jamie

Well, gosh, that's quite a background thinking about all the things that you've gone through. So now I want to know more about this. So, tell us about Two Hives Honey. What area of business are you most proud about? You've already mentioned that you made honey, but you also say that's not just the thing that you do. So, expand on what your business practices are, please.

Tara Chapman

Yeah. So, I started out, I just loved honey and I love bees, and I wanted to share that with folks. And then, you know, somewhere along the way, pretty quickly I realized how little money there is to be made in honey, particularly in Central Texas. You know, East Texas, their harvests are decent, but there is not a lot of honey in Central Texas. We have very severe droughts and just really tough seasons.

You know, I didn't have that many hives to start with and I wouldn't get any honey from them for a year. So, very quickly, I jumped into education and agritourism. So, I actually, I remember reading the book called *The $100 Startup,* and I was launching the business and one of the books talked about getting paid twice. And I thought, how can you – I've got a single jar of honey, how do you get paid twice for it? I thought long and hard about it. And then I realized, you know, I had a family and friends that would come into town and all they wanted to do was get in my beehives with me. I thought, I think I can charge for that.

So, I was really the first in Austin to target the non-beekeeper groups in terms of beekeeping agritourism. We were the first to really do that in Texas. So, I started doing hive tours off of my back porch and it kind of grew from there. Where we are today, you know, we opened our first brick and mortar in East Austin in 2017.

It was just a little shop in this super, super dodgy old warehouse center. There was an Alcoholics Anonymous across the way and then an Herbalife on one side and then a church on the other side. It was a really interesting setup. But we had bees at different breweries and distilleries and we would do our chores there. And then COVID hit and we had been looking for a new space. We outgrew our space very quickly, and I was literally weeks away from signing a lease on a new space that would have really exponentially increased my overhead. And thank God COVID happened when it did. and not 3 weeks later, because we would have been in real trouble, and it was at a point we kind of stopped and we paused, and we actually bought a 5 1/2-acre property just east of the Austin city limits. That's really allowed us to expand our agritourism. We teach, you know, I do a ton of teaching. I've been teaching beekeepers for 10 years.

Of course, I had the book that came out last year. But really the part of the business that we've been growing exponentially is our agritourism. So that means that families, we do field trips, they can come out on the weekends, do a tour, do a tasting, do a honey harvest with us.

But we also do a lot in the B2B space. So that's targeting, Austin is a big tech center. So, you've got the Googles and the Facebooks and the Dropbox and we've had real estate companies come out. And so, it's a place for them to bring their team out to get outside and do a fun team building activity.

You know, behind the scenes we do a lot of the ag work, meaning like folks in Texas, if you have beehives and a certain amount of land, you can get a certain cut on your taxes. We do a little bit of that. But as our agritourism business has grown, we've kind of cut back on there and we're really focusing on just targeting not just beekeepers, but anyone that might be bee curious.

And we do sell honey, after all that. I did actually start a honey company, but the honey part will always stay really small because one of our core values and our commitment to customers is that if it's got our label in our bottle, it's our honey. We don't honey pack, meaning we don't buy from other beekeepers and white label it as our own. And so that part will continue to stay small. The nice thing is that exit through the gift shop phenomenon is really powerful so we can get someone out to our honey ranch. We sell a lot more honey direct to consumer that way.

Amy

That's amazing. You're living the dream, Tara. You get to educate about bees. You know, I've never been to Austin, but I heard that it's a very techie, big city. I think it's, you know, for me,

personally, I love the idea of just sharing the outdoor space and bringing bees to people who normally wouldn't think about bees, I think. So, I think that's fantastic.

Tara Chapman

And honestly, I really had to do an examination, particularly after I had a child, of like, how much of this is sustainable for me to personally do for years to come, right? And the beekeeping side is really hard work and it's hard to hire for, right? I mean, you have got to find a special person that's willing to go out. We had 86 triple digit days in 2023 in Texas. That is prime harvesting time. You got to be a special kind of crazy, right?

Be willing to put on a bee suit, sweat your tail off and lift those boxes with those angry bees in triple digits. So, it's a hard job to hire, train and retain. Finding ways that we can rely less on the super high skilled beekeeper. I mean, I can take most anyone and get them into a position where they can do a bee experience for someone, you know. So, I just really had to think about how can we scale and grow and stay relevant and strong where I don't have to do all of it. And that's really what the agritourism has brought us.

Amy

Yeah, absolutely. So, on the note of education, you had mentioned that you recently published a book. I know that the book is called *For the Bees: A Handbook for Happy Beekeeping*. I'm interested to know what inspired you to write this book. And for our listeners, what would they expect to see or hear out of the book?

Tara Chapman

Yeah, I mean, I always joke that my publisher definitely didn't do their due diligence. I'll never forget when we got to the end of the book writing process and it was like, OK, now we got to come up with a title. My editor was like, wow, because he was Googling, like looking up different book titles. You know, we don't want to name it anything that's already out there. He was like, wow, there's a lot of beekeeping books. Like, there are a lot of beekeeping books. I feel like I could see them be like, Dang, we should have looked at the books a little sooner. There's a lot of beekeeping books out there. But it actually started because I teach this program.

I have an apprenticeship program which is a 60+ hour immersive beekeeping program, because I was doing one-off classes, you know, an intro here and a harvest class and integrated pest management class. And at the end of every class I was like, you can't leave. There's too much more for you to know. And I wanted a program that kind of will encompass it all from start to finish. I started this apprenticeship program nine years ago. I would play around with, like, there's readings you have to do as part of the program. It's over 8 months, and I tried a few books here and there, but I was always kind of dissatisfied with what I wanted in a book and what I

want in a book and what I set out to write, and I think I accomplished, is that I really wanted a book that was biology heavy and biology first. I think if you were a beekeeper and you have been successful by whatever that means to you, and you have not first learned honey bee biology, it's almost been by luck, right? You cannot be a good beekeeper unless you were first a beekeeper biologist. So, I wanted a really biology heavy book upfront.

That's why you don't get to the beekeeping part until chapter 4. I would go to bee clubs and I would say, why are we teaching people how to feed bees when we've not yet taught them about honey bee nutrition? How can we talk about one and not together? So, I wanted a biology first book. There are a lot of really great books out there, but for a lot of the books I found they fell into one of two categories. They fell into the like, dense reference edition, like, you know, big paperweight of a book and all the information is there, but it's not approachable. It's not something that a beginner can pick up. Honestly, you know, maybe you'll start to get the content of the book after your third year beekeeping.

And then the other category is like the fun, kind of fluffy, beautiful to put on your coffee table, but not really address the nuance of beekeeping. I just thought, can we not address the nuance and the specificities that you need to really understand the biology of beekeeping and also have fun with it because I feel like we can accomplish both.

So that was what I set out to do. So, I, of course, wrote the book. I think that I addressed the nuance in a really approachable, easy-to-understand way. But then I found this amazing illustrator. She had done a mural for us at the Honey Ranch, and I put her through beekeeping classes.

And there were certain things that I wanted illustrated straight, right? You need to have the development cycle, for example, or the equipment needed to be drawn straight. But I also wanted to her to have fun with it. So, I put her through some beekeeping classes and I was like, you're new, tell me what strikes you as funny or interesting and let's come up with ways to illustrate it to give – just bring some joy to the book.

So, for example, there's an illustration in the book in the nutrition chapter, and this was her idea, and she illustrated, almost identically, the Lord's Supper with the queen bee in the middle as Jesus. And on the table, you've got all the macronutrients that a honey bee needs in its diet, down to, she even got Judas with the knife behind his back over in the corner. And then that bee comes back around later we talk about murder balling queens and such. So, she was able to bring all of this joy that I hope makes people smile.

Jamie

Gosh, it sounds like I need to get a copy of that book and have a look. It also sounds like you put a lot of thought into it rather than just writing. That's really cool. Well, we're pivoting, then, from

books to social media. We're talking about beekeeping education. So, how does social media help or hurt beekeeping education? So, it's really funny that this is the question that we're talking about this week because I just had an epiphany about social media this week.

Tara Chapman

When we first started, Instagram was a very important medium for us. You could see a direct correlation between when we would post about something that we were offering, selling a class and event and sales. It was very, very – before TikTok came about and reels and short form videos became so popular.

Instagram was really, really important for us and to us and for revenue. And then during COVID, you know, TikTok came about and you've got this short form video. It's great because you've got this quick pop of videos. But again, going back to the intricacies and the challenges of beekeeping, a lot of this stuff can't be rolled down to a 15 second video that's going to solve really any of your beekeeping problems, right? So, I think the good that it does is that it brings about so much awareness. You've got a visual medium. Beekeeping is a visual activity, right? It's beautiful. There are so many sounds and beautiful colors and pictures that you can share.

So, that does really well on social media. But again, there's not a lot of time for the nuance. I try really carefully when I'm doing education on social media to choose my words very carefully and really distill whatever I'm talking about down to something that I can hope to address in a really short form, give additional resources.

But even still, you know, there's always that chance of kind of like you're giving someone a too symbol of a solution for what's a really hard problem. So, it's tricky there. The other thing that I think I'm personally have struggled with social media, you know, my relationship to social media has evolved and ebbed and flowed over the years.

Before I had a child, I was very involved in our social media, and I had it and I was always very vulnerable and very open, transparent. I think that was what drew – we have a very good following. That drew a lot of followers. And then I had a child, and I made the decision that I didn't want to include him on that journey. And I'm a person again that has been sharing freely about my family and meeting my husband and the business and how that all worked in. So, that certainly had to change my relationship. But I've got a great social media intern. Just this week, we have decided that we are no longer going to share videos from Instagram to Facebook.

Like we're just not going to share videos on Facebook anymore. It's a real bummer because we're missing out on getting to reach a lot of people. But honestly, Facebook is just a really horribly toxic place to hang out. Every time we have a lot of reels that go viral, right?

And every time I see the numbers tick up, my anxiety gets really strong and I just dread opening the app because it is just wild the things that people will say on that platform. The ignorance, just like the vitriol is unbelievable.

And we've just decided for the mental health of our entire team, we're not going to do that anymore. So, it's really one of the downsides of social media, right, is that every time we get something, you want your content to get a lot of views, but it's got diminishing returns over on the Facebook platform. So, for those of y'all that follow us on Facebook, if you're on Instagram, please follow us there because we're just going to take a break for a little bit and see what happens.

Amy

Yeah, absolutely. I understand the balancing act of, you know, social media versus reality. So, I want to go back and talk about the agritourism side of your business. I think that that's something that is, you know, it's a growing industry is agritourism. You know, even in Florida, we've got an agritourism community, we've got an association. Bees are just now kind of showing up as OK, like what are the liabilities? What do we need to create agritourism businesses here? And I'm sure that's the same across the nation. I was wondering if you could tell us a bit about some of the challenges in balancing your beekeeping operation, right, with the growing of the agritourism business, because I'm sure those are two separate things. Yeah, it's great to incorporate. I heard you say that you incorporated them together like you have harvesting days, and so people can come do a class, learn how to harvest. But you know, how do you balance that from like the overall operation that you have?

Tara Chapman

Yeah. You know, when I first got started, when it was still just me, right, over 10 years ago, when we were still just me, I would actually use my like budding agritourism operation as a way to get my work done.

So, I would plan these tours where I had to go to a yard anyway because I didn't have a physical space to take people. I was taking them to yards. I didn't own any land. All of my bees were at other people's property. And so, I would kind of use it as a way, again, I get paid twice phenomenon, right? Like I have to go work these days anyway. I'm going to take the guests along with me. As that part has grown and you know, we're now bringing in more B2B, more corporate customers, they're two very separate entities now. I do have some team members that straddle both, but for the most part, you know, like I've got a guy on my team, Jared, who could certainly help on the agritourism side.

But he is a beekeeper's beekeeper, right? That's what he does. And then I've got a whole other team of seasonal and part-time employees that are just there to do the honey tastings and the

sensory. So, as it's grown, it has become two separate entities. And because the agritourism piece has grown so much, you know, that requires the Honey Ranch, right? That requires like the property and the bathrooms and the facilities and all of that. So, we really become sort of like an event space, if nothing else. I mean, some of the challenges are certainly safety, wanting to make sure that guests are safe.

You are dealing with live animals that can inflict a great deal of harm. And so, a lot of training of the staff to recognize that first and foremost the guest safety is paramount, right? The number two is the safety of the bees involved. So, if we need to adjust, step back, go to a different hive, maybe we call it, we pivot to another activity, you know, that's what we need to do.

We've been very lucky. We've never had any, any big incidents, thank goodness. But safety is always something, you know, we're actually, we do our annual little get together and repair all of the suits because they'll tell you, you think that a suit gets a lot of wear and tear when you wear it every day, when you're putting just strangers into suits, I don't know what these folks are doing to these suits, but they really, really, really get bruised and bumped. And so, making sure all the gear is repaired and then people know there's, you know, first and foremost, there's rules and whatnot. So that's the thing that, every day that I wake up, I'm thinking about, like, are we keeping our guests safe?

We've also realized that not everybody wants to be in a beehive. One of the benefits of our team and my strengths personally is my creativity, right? So, I was the first to offer hive tours in Texas, and I was also the first to do things like honey harvest parties and honey sensories. And we're always coming up with new and creative ways to get people interested, because at the end of the day, if you're even slightly interested in honey, I can walk you down the path where you've left and you now also know about native bees, right? Like, we use the honey as sort of like, you know, a catch all to get people in the door.

And then we want to talk about, yeah, sure, you want to talk about honey bees, but we also want to talk about native bees. And then we want to talk about plants, and then we want to bring it all the way back to why we all should be kinder to all creatures, right? So, that's a real benefit of the agritourism, and it's something that we love the most about being able to offer that to our customers and our impact and our reach can go so much further.

But we did realize we needed to offer some non-in-hive experiences and that's how things like honey harvest parties and things came about. My events person, Tony, likes to say, we have indoor kids, and we have outdoor kids, right? When she's trying to set up a group, her first mission is to identify, is this an indoor kid group or is this an outdoor kid group? And then we kind of go from there to make sure they have a great time no matter where they like to sit.

Jamie

So, Tara, how has becoming a parent changed your perspective on beekeeping and running your business? You've alluded to it a little bit earlier, but could you elaborate on it a bit?

Tara Chapman

Yeah. So, I never intended to become a beekeeper, but I also never intended to become a parent. An accidental old beekeeper becomes an accidental mother, I like to say. So, I learned I was pregnant in 2021. So, this is right at the height of the business. We had just purchased the five-acre property and were rapidly doing repairs and turning a barn into a classroom and really, the business was at full speed, and I had just gotten engaged.

I'd never planned to have children. What was I going to do with a child? I had this whole business. It was my first baby, right? Ed was working an extremely large number of hours every week. The fact that I managed to meet a man that was interested in marrying me was unbelievable because I don't even know where we had time to date in there.

I was really running on all cylinders. So, I learned I was pregnant. I learned I was pregnant in February. So, just before, you know, bee season starts in February in Texas. Probably not unlike Florida, I'm sure you have a – maybe your season never ends, but very early season. I, you know, went into panic mode. I had actually just started writing the book. I had written 1/3 of the book in six weeks. And then I put a stop to all new projects. I put a pause on the book and everything else while I had my panic attack trying to figure out what in the world am I going to do here. And I didn't do a good job preparing. That's perhaps a story for another day. But I was really knocked over after I gave birth. I had a child that cried non-stop for months. I am not exaggerating when I say he never stopped crying and he never slept.

He didn't sleep, really, for, I mean, years. We're now at three and a half. But I had to reevaluate how I ran the business, how I was involved in the business, and how I was going to manage it all. And I tried to do it all for a very long time. You know, just looking at the business side, what I was doing in the day, it's miraculous looking back, even, you know, a few years later, like what I was doing to myself was not sustainable. And a baby was just enough to push me over the edge.

I talked about how it's changed my relationship to social media, of course, but I also had to let go. I mean, Two Hives was my first child, right? I mean, it's not a joke to say my literal blood, sweat, tears, lost relationships, lost friendships through my dedication to this business.

And then something more important came along. I really, really, really had to take a step back. And it was very hard for me because when you built something that's so special to you from the ground up, the thought of turning it over to someone else who's, you know, I would say, my staff isn't staying up at 3:00 AM thinking about, you know, a tour that maybe went awry. I hope they're not. I hope they're not at 3:00 AM thinking about, you know, what happened earlier that day.

But I certainly do. And so, turning it over was really hard. I had to work for a long time to really begin to let go. And the fact of the matter is that, now, I mean, I'm rarely in bees. I'm only in bees when I'm there with students or when I'm with my son. But the fact of the matter is that in order for the business to grow, I had to get out of the bee yards.

I mean, if I am out with a client, we are losing money, right? I need to be doing marketing and sales and higher-level strategy. I could have stayed smaller and stayed a one or two woman show, but I really wanted to increase my impact. So, it has been the hardest thing, second only to parenting, the hardest thing I've ever had to do was turning over the day-to-day operation of the business.

But my team is phenomenal. You know, when they won't stay forever, they've got other bigger things they want to go and do. Every time one of them leaves, it's like a deep stab in the heart to me because they're all so great. But we always find someone great to come along. We just attract really good people.

So, I've really taken a huge step out of the business. Really my role now is again, marketing and sales and managing the team, of course, doing the overall strategy and HR. And then really I'm only in bees when I'm with my apprentices, my immersive program, or then just for fun with my three-year old who's been in a bee suit since he could walk. He was in a bee suit before he was two years old. I will never forget. A reporter came out for a magazine in Texas. They want to do a photo shoot. My childcare fell through at the very last minute and I thought, well, let's make some lemonade. The reporter showed up and I said, I was thinking that, you know, you're talking about fun things for families to do in the magazine, like we could photo shoot my son in the bees.

And then you can tie that in, right? This is a family business. He was maybe two and a half. And he doesn't like to wear gloves. I said you can shoot, you know, I don't show his face on social media. You're happy to put any photo you want this magazine, but you have to promise me you will not put a photo of my 2-year-old, gloveless, holding this frame of bees. Because I do not need the Internet screaming at me in all caps. Huge step back. But I've just been delighted. This is going to be, so 2025 is going to be our biggest revenue year yet, most revenue yet and it is my least involvement in the day-to-day operation. So, maybe I should have fired myself years ago. Who knows where we could be today?

Amy

That's really funny, Tara. It’s inspiring to hear you, for sure. And I think Jamie and I can agree that a good team makes all of the difference. We've got a lot of people here as well at the university supporting us and it's nice when you can go off and, you know, do a talk and know that everything else is taken care of.

All right, so I am just going to ask you the last question here. My question is, what is the future looking like for you? Where are you headed? What are your big plans and what does that look like?

Tara Chapman

You know, the short answer is I don't know. It's been a really transformative year for us. Like I say, this is the least involvement that I've had in the day-to-day operations and like honestly the best that we've done revenue wise. It's really because our agritourism business has taken off so much. So, I'm really taking a hard look for myself, is that what I want to be doing forever?

I don't think so. I'm a CIA officer turned beekeeper turned – there's something else that needs to come next. I don't know what it is, but I don't think that means that Two Hives has to go away. I mean, dang, the team's doing great running it. So, I'm really taking a look at – my son's three and a half, he's about to start school.

What does that look like for us as a family? Where do we want to be? Where do we want to be doing? And so, I'm taking a hard look at, you know, how do I want to be spending my time? So, I don't, I don't know. Right now, on a macro level, I'm really interested in helping other folks that want to make money off of beekeeping.

So, I teach it all. I teach at a lot of schools across the country, but particularly in Texas, of course. And I've been asking those that want me to speak, you know, every year I've been asking and pushing for them to let me speak more on the business side of beekeeping because there's a lot of ways to make money. There's a lot of ways to not make money in bees, too. And I think that what's often missing from those budding beekeeping business owners is a lot of the savvy about the marketing and branding and pricing strategy, for example, like a lot of the business elements and the economics of the side of business, which is really important.

So, I'm really focusing on finding more ways to address and reach more people and to help those that, whether it's they want to be a sideliner, have a part time job or make it their full-time business. Eventually, I want more people to be involved and to make a living off of it because I think of it, all boats rise together.

Amy

Absolutely. Well, thank you so much, Tara, for joining us today and being a guest on our podcast. I know that the listeners are really going to enjoy your story, you know, enjoy looking into your book, and the whole agritourism thing, I'm all about. So, I appreciate having you today and thanks for coming.

Tara Chapman

Yeah. Thanks so much.

Stump the Chump

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

Amy

All right, welcome back to the question-and-answer segment. Jamie, we just interviewed Tara, and her employees thought it would be fun to send us a question for the Q&A with her episode. And the question is, what are the girls doing on top of the inner cover when you open up the telescoping cover? I guess, you take that cover off. There are some bees, there are some workers on the top, this individual says and tells their hive tours that it's their break room where the worker bees' gossip and take bets on new potential queens. I'm sure that's scientifically true, right?

Jamie

That's probably it.

Amy

You've answered your own question. That's great. That's what it is. The workers go there to gossip about all the other worker bees there. But really the question is, do you know if they're doing anything specific at that point?

Jamie

Yeah. So let me elaborate on that. It's a funny question. It's a good question. I've actually never been asked that question before, which means I don't have an answer. But for those of you out there listening, you're wondering what in the world we're talking about with inner covers. I know everybody has slightly different hive designs depending on where in the world you are. There is a hive design here in the US, and I know elsewhere as well, that has a telescoping outer cover. And when you remove that outer cover, there's an inner cover that sits on top of and is flush with the edges of the uppermost box that composes the hive. So, the telescoping cover, the outer cover, telescopes down the side of the box just a little bit at the top.

So, you remove it and you've got this inner cover that is flush. And when you take off the telescoping cover, the inner cover always has bees on top of it. There's this hole in the center of the inner cover and bees will come up through that hole and it just bees staining right there on top of the inner cover.

So, they would have been between the outer cover, the telescoping cover and the inner cover. So, the question is, what do they do? There's no comb there. So, they're not building wax or storing

honey, they're not feeding brood, they're not maturing pollen or bee bread and all that stuff. What are they doing?

Well, the truth is worker honey bees spend a ton of time doing nothing at all. We've talked about this on the podcast before. If you actually called worker honey bees by what they actually do, you wouldn't call them workers, you'd call them resters, because they spend a lot of time just resting. Their energy is taxing to them.

So, they spend a lot of time just resting. So, a good question could be, well, why would they rest there rather than anywhere else? But anytime there's a hole somewhere in the hive, bees are going to go into it. That's just where they're resting.

Now, they could also be up there patrolling. Bees spend a lot of time patrolling, which is where they are trying to figure out what to do. Not all bees do all tasks, but we all know that honey bees progress through a series of tasks while they age. And in that particular context, they spend a lot of time patrolling, trying to figure out what needs there are in the nest.

So, some will have simply gone up there because they're patrolling another area of the hive to recognize what may need to be done. When you remove the telescoping cover from the inner cover, you'll notice that the two are attached with propolis. So, sometimes they're going up there to put propolis to seal those two lids together.

If you live in an area where small hive beetles are present, there may be small beetles in that space between the inner and outer covers. Bees could be up there working the small hive beetles. A lot of inner covers sold in the US have a notch cut in them on the rim where bees will use that notch as an exit.

So, bees are coming and going through the nest, sometimes, through that notch cut in the inner cover, if there is one in the inner cover. So that is another area in the nest that bees would be coming and going. So, there is quite a few things that they could be doing up in that gap. But when I open the telescoping cover, the vast majority of bees that I see are just kind of standing there. So, I think they're just resting or possibly, what they asked, which is in their break room gossiping.

Amy

That's so funny. I'm like, you know, it's half true. We don't know if the other half is true whether they're gossiping or not. I don't want to bring it up to the bees because I'd be worried they'd start gossiping about me if they are. So, all right, thank you, Sin, for sending that question in. That was fun. OK, the second question that we have for this episode today is this individual really enjoyed episode 192. We talked about pathogen spillover from other bees, and the question is how much is that a problem?

The individual recently did some surveying for native Hawaiian yellow-faced bees and got a lot of yellow faced bees from India. That is the same genus as the Hawaiian species. This is a very specific question. I like it though. Do you think this is going to pose a problem for the future of Hawaii's native bees? And what about the pathogens?

Jamie

Yeah. So, it's really impossible for me to speak with any authority on the Hawaiian, you know, yellow-faced bee, which is an amazing bee. There are a few species of them, if I'm correct about this. But I can talk a little bit about pathogen spillover.

We did cover that in a former episode, which is what the listeners alluding to. Here's the idea, and I'm just going to use Florida as an example because it's easy for me to think about it. You know, there's one honey bee species in Florida, Apis mellifera. Well, there's probably 320ish total species of bees, and I'm sure there's more or fewer than that. Maybe more will be found or fewer will be found, but there's around that number. So, of those 320ish, one of them is a honey bee. The other 319ish are other bee species, and we've done work where we've seen what we traditionally consider to be honey bee pathogens present, or associated with is the term that we use, these other species of bees.

So, for example, you might find, if you collect some bees and maybe even wasp species around here, which we were able to show if you collect some bees and wasps from around the area, we find honey bee associated pathogens. We find European foulbrood and Nosema ceranae, and we find deformed wing virus associated with these bees.

But listen to the word that I'm using. I'm using the word associated. We've not shown that these pathogens are capable of making these other bees or wasps sick. We've only found them with these other bees and wasps and they may not be inside those bees and wasps. They may be outside, and even if they get inside, they may not be capable of making these things sick. So, really a lot of the research that's been done today is just these screening research projects where you collect a bunch of bees and you look for honey bee associated pathogens and then you find them or don't find them. And then you make proclamations like, well, there's pathogen spillover from honey bees to these native bees. But there's a lot of work that will need to be done to see if these pathogens are capable of reproducing in these native bees, if they're capable of making them sick or producing clinical signs of any of these things.

So, mere association means very little. It’s an indication but means very little. And right now, a lot of the work is just screening work. So, that next tier level research needs to be done. The tier associated with, well, you inoculate these bees with these things in very controlled cage studies in the lab to see if it produces clinical signs.

But I want to broaden, Amy, my answer to go even further. I'm going to take the next step and say honey bee associated pathogens. A lot of the pathogens that you and I and beekeepers think of as honey bee pathogens, you know, Paenibacillus larvae that causes American foulbrood or Melissococcus plutonius that causes European foulbrood or Nosema ceranae that causes Nosemosis.

A lot of these pathogens that we consider honey bee pathogens, we only consider them honey bee pathogens because we found them usually with honey bees first and found that they cause an impact with honey bees first. Well, if you find them there first and your mind says these are honey bee pathogens, then you're going to think that when you find them with other bees that the spillover went from honey bees to these other bees.

But the truth is these other pathogens could have originated in other bee populations and spilled over initially to honey bees. So, they may not truly be honey bee pathogens at all. They may be pathogens of these other things that we've associated with honey bees because we looked there first, and I know I'm going in circles.

My point to all of this is to say we really don't know as much, maybe, as we thought we did two decades ago. Just understanding the pathogens that honey bees have and asking, are honey bees the natural host of these things or were they the victims of spillover and are they capable of spilling these things over to other bees and wasps?

There's method in my madness here. The method is to point out the fact that we know very little except that we can find pathogens that are shared between multiple species, and some, we know, clearly make honey bee sick, deformed wing virus, things like that.

But we don't know that they make these other bees sick. So, to be very specific about this Hawaiian native yellow-faced bee, it's just really impossible to speculate for me now how much of a problem spillover of pathogens would be between honey bees and the yellow-faced bees there, or vice versa, or between yellow-faced bees and other native bees.

It's just my long rambling answer was purposeful to illustrate the point that there's just a lot about this that we don't know. People are actively investigating this, but we just don't know a lot.

Amy

Yeah, that was our long way of saying we don't know. Thank you, Nam, for sending that question. Actually, Jamie, the question wasn't sent directly to us. It was through our Master Beekeeper program. So, some of the people in the Master Beekeeper program had questions for you. I kind of just took those questions and decided that we were going to use them here on the podcast today. But yeah, it sounds really like it's the question of what came first, the chicken or the egg.

Jamie

It is. So, I guess the point is when you have honey bees in an area, there's been clear, you know, demonstrations of an increase in pathogen, loads of quote, unquote honey bee associated pathogens in the native bee populations. But we just don't know what that's doing in most cases.

Amy

Alright, we're going to switch over to the third question. The third question was also a question that was provided by a master beekeeper in our University of Florida program. And the question is, this is really interesting, I've never heard of this and I'm just going to read it. What is your opinion of drone patties? What the heck is a drone patty?

Jamie

You know, you and I were talking about this, Amy, before we came on the air. Beekeepers read about bees so much more than I do. Most of the things I discover in the beekeeping world, I discover because some beekeeper said, hey, Jamie, what do you think about blank? And I'm like, what do you mean about blank? I've never heard about this. And then I have to go and look it up. Well, this was one of those things I've never heard about. Drone patties. Yeah, but it's because a beekeeper had read about it or seen something about it. You know, they get it through Facebook or online chat, whatever. They watched a video, whatever. So, I always feel about 50 years behind the curve when it comes to bee knowledge, but nevertheless, let me try.

Amy

But you should still trust our recommendations and what we say.

Jamie

I know, I know, I was thinking about that when I was saying like, well, crap, I'm about to shoot myself in the foot, but whatever, it's just what it is. All right, So I had to look it up is the take home message from that. I'm rambling today, but anyway, so I looked it up and what it is, there are investigators, researchers who have proposed using drone brood to create a flower of sorts.

You take drone brood, and you dry it, you know, pulverize it into a flower and then you use that flower as the basis for nutritional supplements that you feed bees. So, we all are aware that beekeepers can feed bees pollen patties or pollen substitutes, right?

And that's usually some sort of protein powder, soy flour or something like that, some sort of protein powder with other things mixed into it. And then you mix it with sugar water to make a pliable patty that you feed bees. And so some investigators have said, hey, drone brood production is expensive for bees, but some people use drone brood removal as a way of trying to reduce the Varroa population in the nest.

But if you're throwing out the drones, you're really wasting a lot of the bees' energy and input that it took to produce those drone pupae in the first place. So, they propose, why don't we just harvest those drone pupae, dry them, pulverize them, and then use those in substitute patties that we feed the bees?

And so, the question to me is, what is your opinion of drone patties? Well, I don't formally have an opinion because I've only just kind of discovered this, and I've read the research papers that are talking about it. It looks promising. The researchers make the point that, obviously, in the drone flower, you would have a lot of nutrients that developing bees need, right?

So, all of that makes sense in my head, but I've never personally tested. I'm only able to go off the study or two that I was able to find about this. I'm very intrigued by it. I like the utility of this. I like the creativity of this.

Hey, you know we've got drone pupae that were thrown away anyway for Varroa control. Why don't we see if we can use them another way? I like all of that. So, I guess my point at this state in my answer is I don't know much about it. What I know is somewhat limited, but it seems very interesting, and I look forward to seeing where it goes. So that's my opinion. I look forward to knowing more as people generate more data on this topic.

Amy

Yeah, absolutely. You know, I kind of just think about it like, I don't know, I don't know how I feel about taking drones, I guess if they're not being used anyways. Don't some people that have chickens use drones to feed their chickens? Isn't that like a nice treat that chickens like to eat?

Jamie

Yeah, they do. They do. It reminds me, Amy, and maybe I shouldn't bring this up.

Amy

Do it.

Jamie

Maybe you and I talked about it, but there was a movie before I was born. It was called Soylent Green. And I remember they – I've never even watched it, I just know the premise. The premise is, you know, there's some point in the future and humans are running out of food, and some company or the government or somebody, I forget, produces this food called Soylent Green. And there's a big mystery about what it is. But it's, if memory serves me correctly, they're just processing dead humans into the food.

So, I was thinking, you know, here it is. It just reminds me of that movie. It's like we're processing drones into future food for bees. But if you're going to throw them away anyway, or, or if there's a market for this and improves colony health, you know, I'm willing to go where the data takes us.

Amy

Yeah, that might have been the people who made the drone patties. That might have been their inspiration and background for it. Who knows? Alright. Well, these are fun questions today. Listeners out there, you know where to send your questions and we've been getting and receiving a lot of questions in our e-mail.

That's a great place to contact us. We try to get to them as best as possible. If you've been listening for a while, if you asked a question and we haven't answered your question, please feel free to send me a little reminder e-mail and we'll be sure to acknowledge it on the podcast.

Hey everyone, thanks for listening today. We would like to give an extra special thank you to our podcast coordinator, Jeffrey Carmichael. Without his hard work, Two Bees in a Podcast would not be possible.

Jamie

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