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SPEAKERS

Serra Sowers, Amy, Stump The Chump, Jamie, Guest

Jamie 00:10

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

Amy 00:45

Hi, everybody, welcome to this episode of Two Bees in a Podcast. Today, I'm excited to interview Mrs. Beth Murphy with Sweet Southern Bees LLC, and she is out of High Springs, Florida. Beth, actually, is a very good personal friend of mine. So I'm very excited to have her on the episode today. Thank you so much, Beth, for joining us today.

Guest 01:07

Thanks so much for having me.

Amy 01:09

Well, I'm really excited because we're talking about your involvement in farmer's markets because I'm friends with you on Facebook. I'm friends with your husband, and he's a diver and I'm just so excited to see your posts when you go to the farmer's market every week. And so that's what we're going to talk about today. But before we get into that, can you tell our listeners just a little bit about your beekeeping journey?

Guest 01:32

Yeah, I had always had sort of a fanciful notion about becoming a beekeeper, but life was just not conducive until 2014. I had signed up for IFAS notifications to tell me about the IFAS classes that were available to the public, and in pops a notice about a one-day beekeeping course. So without telling

Jerry, my husband, I signed us both up. And we went and it was amazing. I did not read any of the disclaimers about the class. I was completely unprepared. I actually went in a sundress and flip flops. So I was just not in good shape to be out there handling the bees. But nonetheless, the gal handed me a frame of bees and I was so enthralled with what was happening on that frame that I was just immediately hooked. So I, of course, went home, posted about it on Facebook, and the wife of a dear friend of mine from college saw it and shared it with my friend. His name is Tom. He's actually my beekeeping mentor. And he, having been a beekeeper for about 10 years, decided that he was going to expedite my journey into beekeeping. And without asking or telling me, he simply ordered a beginner's kit, which started showing up from UPS about a week later. So I reached out, and I actually thought the bees were in those boxes with all the woodware. I was so completely uninformed. Anyway, he sent me a package, which was seven days in the mail, miraculously, the queen and about a third of the colony survived. And that was the beginning. I caught a swarm that year. And I decided I was going to do everything chemically free. So all I did was powder them with powdered sugar for the first year, year and a half. And of course, I lost both hives the following year. And I was just devastated. But I realized how much I had enjoyed it and decided I needed to be very aggressive about my education and to learn everything I could about mites and bee diseases. And so I ordered two more packages, jumped back in, and I've been doing it ever since.

Amy 03:42

How many colonies are you at right now?

Guest 03:45

I have actually whittled it down. I got up to 27, and that was just way too much when I was trying to juggle farm, chickens, house, my work for the farmer's market, and all the administrative business stuff that goes with that. So I started reading about how I can get lots of honey off of fewer hives. And I'm going to try double springboards this year and see how much I can get off of six hives with one as a resource hive. So I've got seven right now.

Jamie 04:15

Yeah, that's really neat. I love the fact that your mentor sent you a hive. That's really cool. I like that.

Guest 04:21

It was just an amazing start. He is an incredibly generous person. And that was -- it's the greatest gift anybody could have given me because, without sounding cliched, it truly changed my life.

Jamie 04:33

That's really exciting. And you had mentioned in your answer, too, about the farmer's market, administrative work around that. So that's really what we want to dive in with you about this topic in this particular podcast episode and for our friends around the world who are listening to this particular podcast. They may not be familiar with the term farmer's market. Here in the US, we know exactly what that is, but if you could describe for us what a farmer's market is first, and then talk a little bit about how you started selling products at them.

Guest 05:03

Absolutely. Farmer's markets here in the states are generally an outdoor event where local small businesses, primarily farmers, but also crafters, woodworkers, potters, artists, all come together to sell in a localized location, for lack of a better word, usually outdoor on a street, sometimes out in a park. And they usually last a half a day or a full day. Okay, so how I got started selling at the farmer's market, it was a personal journey. I actually got very sick in 2017. And it's an autoimmune disease that required me to change my life, change my lifestyle and minimize stress. And so in that course of trying to determine how I was going to reinvent myself, I looked at the things in my life that challenged me the most and gave me the greatest joy. And that was a very simple answer. It was the bees. So in not wanting to ruin that, it's a sad commonality in life that oftentimes we take our hobbies, and when we make them our businesses, we rob it of its joy. And I did not want to do that. So I looked at all my skill sets that I had amassed over the years. I've worked in marketing and sales and graphic design my whole life. And sitting over a cup of coffee with a friend who had formerly worked at farmer's markets, she kind of tossed the idea out. And it was a perfect fit. It was the proverbial light bulb over my head where I realized that that would almost certainly work for me. So I started doing homework, and thank God for the internet, because I learned virtually everything I needed to know by googling soap recipes, and honey soap recipes and how to find bottles for my honey and it was just an exploration in what I could make and sell locally to earn a living.

Jamie 07:11

So Beth, would you define yourself as an introvert or an extrovert?

Guest 07:15

I am an introvert by nature. I can become an extrovert at will. I know that's a crazy answer.

Jamie 07:25

Well, let me tell you why I asked that. So I'm very much an introvert, despite what people think about me. And when I started keeping bees when I was young and through my teenager years, my parents wanted me to offload all this honey that I was producing. And so farmer's markets were kind of involved in my teenage life, but I just couldn't do it. It was so hard for me because I sit at a table, all these folks come by and look at you, and my introvert radars are just going off. And I'm like, "I just can't do this." And the fact that you're very successful, that's why I thought I would ask what type of person because it kind of takes a person who's an outgoing person to be able to do this well.

Guest 08:03

It absolutely does. Yeah, it absolutely does. And I'm not ashamed. There's part of me, that's ashamed to say this, and there's a part of me that's proud to say this. So you guys work out the psychology of that. The driving force for me is my profit. And so it pushes me to push myself. I'm also very good with people, I love interacting with people for short periods of time. It just takes its toll. So again, that's why the farmer's market is perfect because I get to sit, I'm sitting here right now in sweatpants and fuzzy slippers, and that's what I work in most of the time. So I get six and a half days out of the week that I am by myself with my bees in my garden, visiting with Jerry, drinking coffee, working, working, working. And then for four hours, I have to flip a switch. And I go into high gear and I go to the market and it's physically very taxing too. I'm getting old. I'm almost 64 years old. And I do this by myself. So it's actually about six hours between setup, working and breakdown. And by the time I come home, you

can just put a pin in me. I'm done because, psychologically, I've been on for four hours selling my product. I mean you are also kind of like the bartender. I know a lot of my customers very well. I had one of my favorite customers come up last week and we mourned the loss of her cat last week. So it's very taxing, but then I get to go home and get back into my sweatpants and my soft fuzzy slippers and wind down for another six and a half days.

Amy 09:39

Beth, you're really selling the life. Jamie, I don't know. I think I may be --

Jamie 09:43

It's time to retire.

Amy 09:45

I may be done with this podcast gig and just go and make products and sell at a market. No, I really truly feel like Beth is underselling the work that it takes to go to a market because it does take a lot of work transitioning into the products, right? You do have to work to sell your product, you do have to work to market your product. So there's a lot more, I will say, than it is to just talk to people for four hours.

Guest 10:13

You are absolutely correct. And it's not just the work that goes into making the products. It's also the work and trying to strike a balance with the rest of your life just like you guys do with a more conventional job. My biggest challenge is not to go down the rabbit hole. I mean, like this afternoon, I'm going to spend the afternoon doing sales tax when what I really want to do is go out and check the bees and go uncover my garden, and so on and so forth. So it's challenging to strike that balance. But you are absolutely right. The work that goes into making the products, and not just making the products but coming up with new things all the time because you can't just sell the same things over and over every week.

Amy 10:57

Right. So that actually leads me into my next question. I've seen you through the process. I've seen the products that you've made. You kind of mentioned soap earlier and honey soaps earlier, can you describe a little bit more about what type of products you sell? How do you decide what new products you want to bring? And how do you decide what does sell best at a market?

Guest 11:20

Those are really good questions, because those are the questions I have to ask myself before I start down a new path with a new product. Because I'm a beekeeper, my primary theme at my booth is bees, honey bees, wax, honey. Basically, I started by making only things that had or that used honey and beeswax, and that was edibles or cosmetic products. And so that was things like soap, balms, butters, body butters, and foodstuffs I make every single week. You can tell I'm getting tired of this. I make baklava and I make honey caramels, and so I've tried to branch out from just selling my bottle of honey. I also started making creamed honey. Last year, with the help of a dear friend that I mentor in beekeeping, she turned me on to doing infused honeys where I infuse certain spices or savory flavors

into the honey. Those are big sellers. But a lot of the choices for what I make are driven by my market. I'm very fortunate I only work the one market. A lot of people, like this gal that I mentioned before, her name is Holly and she's over in the St. Augustine area. She works probably 12 or 15 markets a year. And that's a completely different paradigm than what I do where I go to the same market every week and I have the same booth and I have the same customers. So really different demands on us.

Jamie 13:02

There's about 1000 follow-ups I have. But I'll be honest with you, you had me a baklava.

Amy 13:11

Have you had it, Jamie? It's very good.

Jamie 13:13

I haven't had Beth's but I absolutely love baklava. I'm like intrigued to taste yours, Beth. But, Beth, you're sitting here, so I've never taken any business courses at all in my lifetime. I'm 100% scientist here. I think about migrating markets, you mentioned your friend who goes to 12 to 15 different markets a year and you work specifically one. So you know what your customers want. But, the sales, we got people listening from around the world, so I guess I've got a few questions that are kind of off the script. Is every market 100% unique? In other words, farmer's market in town A the highest demands for honey, farmer's market in town B, the highest demand is for foodstuffs made with honey, farmer's market in town C, the greatest demand is for body products, lip balm, soaps. Do you find that? Or do folks kind of universally want what they want?

Guest 14:11

Oh, no, absolutely. They're all quite unique. Actually, we've got two markets in Gainesville. The one that I attend, which is Haile's Plantation. And then there's another one up on 441. I applied to them and was accepted to both and after going to [inaudible], it was a no-brainer that I was going to be better suited with my products at the Haile market because the Haile market has a greater diversity of crafters, artists, artisans. It was much more diverse. It's more like a street fair or an arts and crafts fair coupled with a farmer's market. The farmer's market up at 441 is primarily food and produce. So if I were just selling honey, that would be a fantastic market for me because everybody's coming there primarily for food. Because I'm such a small backyard keeper and I only have honey at certain times of the year, I needed more diversity on my table. So I needed a more diverse market. So if you're looking to get into farmer's markets, it will really behoove you to attend many different markets in your area to find the best fit for you and for the products that you're thinking about selling. If you're heavily honey, you're gonna look for one that's heavily produce-oriented. And vice versa, if you're more into crafting or diversity there.

Jamie 15:28

I think that's really, really good advice. I'd never thought about doing, essentially, market research and customer research at markets before you decide to sell them. And so you're suggesting, then, visiting them, seeing what their theme is, and making sure that your products fit within that theme. And so I know that this question I'm about to ask you won't be universal amongst folks who sell hive products

and honey art and all that stuff at farmer's markets, but like in your case, are your sales 50/50 consumables versus other products? What's the breakdown of what works well, specifically for you?

Guest 16:07

It actually varies throughout the year. Honey sales are always my top sellers. I switched, we'll probably get to this later, but I do take credit cards. So I switched last year to using a different format, and a different app. And it gives me breakdown of my sales in detail, which has been so helpful. And I didn't really think that honey was going to be my top seller but it absolutely is. If you combine raw honey, creamed honey, infused honey, and then I put together some gift baskets that include honey, those are always my top three to four sellers out of the top five that the report gives me during the Christmas season. My crafty things usually outsell honey, just because everybody's looking for stocking stuffers and gift ideas.

Amy 17:03

So Beth, you're talking about just the money that you're bringing in and from all the different products you have. I know that when you sell at farmer's markets, sometimes you have to pay a fee to be part of that market. I don't know how common that is, the price range of what those are. But I also know that there are some rules and regulations related to selling products. So could you talk a little bit about rules and regulations with farmer's markets? I mean, are these rules specific to edible items? Or is it related to all the other value-added products that you're talking about?

Guest 17:38

Yeah, great question. There are absolutely fees for all the markets there are. Those fees vary depending on the type of event it is. If it's a weekly market, there's usually a set fee. And that can range anywhere from \$15 a day to \$50 a day, depending on your market. There are also annual and biannual events, like there's a wonderful market, big event down in Macintosh where a lot of the farmers market vendors will attend. And those fees are significantly higher because there are single or dual events throughout the year. Those can run \$150 to get into those. So that's going to vary. There are absolutely rules, and I'm only familiar with the two markets that I've vended at. But the common rules are that you can't re-wholesale. Like, I can't just go and buy honey and bottle it up and re-wholesale it. They actually want working farms at their markets. And when I say, "they," most farmer's markets are governed by a board of directors. They're usually an LLC with a board of directors. And when I first started vending at Haile, they actually sent one of the board members out to inspect my apiary and to confirm that I am, in fact, a beekeeper. And I'm really glad that they do that because there could be folks that would misrepresent themselves and it protects the customers to ensure that they are in fact getting locally grown or locally produced products. And there are a few other rules and regs and that's going to vary market by market. I know that Holly just had to get a county business license, I believe, when she was vending over in St. John's County to be able to attend some of their markets. Alachua County does not require that. It's sort of just a localized business license. At my market, you do not have to be an incorporated business, you can just be a sole proprietor who comes out with your produce. So anybody, basically, can come and vend. We do, in fact, have to follow the cottage food industry laws when it comes to hunting. So I have to include specific information on my labels that tells my customers that my honey was not bottled in a commercial kitchen, that it was bottled basically in my kitchen. And that I am following cottage food industry protocol when I prepare and bottle my honey to sell. Well,

that's a lot of stuff. I keep thinking if I had to do this and look into all of that, I mean, I guess the place to start is you go to the farmer's market that you decide that you want to sell at, and then you ask whoever the administrators are, what are some of the rules and regulations related to that? But some of this other stuff like business licenses and things like that, I mean, do you have to carry insurance? Some markets do require that you carry insurance, my market does not. Some farmer's markets will actually provide an umbrella policy that you can buy into. Again, Haile does not, but things like Riverwalk over in Jacksonville, they require insurance, and they require that you have a liability policy either through them or that you take out on your own through a private entity. I would imagine that the folks that are at higher risk, if they're strictly a food seller. I know there's a gentleman who sells locally grown and produced meat and dairy products, and he carries a heavy insurance policy, which is quite smart. So it's all going to depend on what you're selling, I have a good deal of protection under my LLC. So you're going to want to make some decisions as you're getting into the farmer's market based on what you're selling, and what your liability might be to determine whether or not you want to incorporate, whether or not you want to carry insurance, and you certainly want to check with your board of directors there at the farmer's market or whoever the administrative body is to find out what they require. And they'll provide that. Most farmer's markets require that you fill out a very detailed application because they are investing in you as they bring you into their market.

Jamie 22:11

Beth, that's a great answer when you talk about some of these other considerations. I want to follow up a little bit with things like credit cards versus cash and bad weather and public relations at the stand, if you've ever had these kinds of issues you've had to deal with.

Guest 22:27

Absolutely, that's all part of doing business. There are folks at farmer's markets that take cash only. And I have discovered that if I did that, I kept myself out of almost two-thirds of my profit base. So taking credit cards is a no-brainer. It's just the cost of doing business, the fee that's charged. And there are wonderful options for small business owners. And I don't know if it's appropriate to plug anybody but there are multiple apps and options. And you just need to go and shop for who has the best rate and what app is going to work best with your brain because they're all a little bit different. But they're all user-friendly, and you can basically use either an iPad or a cell phone to make your sale. So it's wonderful. And in terms of other considerations at the market, weather is a huge consideration because you're out there in the elements. So you have to decide what your products can stand up to. Mine, because I am only using an inkjet printer and all my labels are completely destroyed if I get wet, I don't go vend on rainy days. It's just not worth it. I've done it a couple days, I've had total losses. So even with a tent in good shape, you still can lose your product in bad weather. I also don't vend when it's under 32 degrees because it's just too darn cold. There are also wonderful tools for the trade, there are weights you can put on your tent to keep it from blowing away in gusty days. So I've learned more than anything from the other vendors. And this ties right back in with going to visit farmer's markets before you ever even get started. Every farmer's market is different, the makeup of the market is different, and I have learned so much from the other vendors. I learned about the particular app I use for my credit card from one of my neighbors. I learned about the weights for my table or tent from my neighbors so it's really important that you find a really good mix for you and your personality and your strengths and weaknesses because it really does become a family. Gosh, I love this story that you're telling about

this. It's just really intriguing how it all comes together and really gives you a lot of faith in farmer's markets as much attention to detail they seem to pay. So let's talk about it on the marketing standpoint, right? A lot of times we know that honey sells itself, honey bees sell themselves because it's such a popular topic. But there are still some things that you can do to make your display and your product just pop. So what are some pointers that you have on how to prepare a good product and an attractive display for the consumer at farmer's markets? Absolutely. Good question. My rule of thumb is that I set my booth up so that it is essentially a self-serve booth. Signage is very, very important so that when folks walk up to the booth, they get answers immediately. Even if I'm not there, they can find out what's in my product, they can find out the price of my product, and I don't have to be there. Now, selling is a critical part of it. Like I said, the more you develop a relationship with your customers, I think the more successful you're going to be because this is a very intimate experience at a farmer's market. I got six Christmas gifts this year from my customers, people who were just so kind and so thoughtful, and brought me a book or a mug or a beautiful scarf. And it just blew my mind. So forming that relationship is imperative. But signage is very important. Color, believe it or not, is very important, and keeping things clean and tidy on your booth. One of the things that I do every single week is that I constantly keep that table full. I want it to look exactly the same at the end of the day, as I do at the beginning of the day. I don't ever want to look like I'm completely sold out. That was a lesson I learned many years ago in retail, when the booth looks full and robust, it just creates a sense of fullness and availability. And for whatever reason, it increases your sales. I'm sure there's some marketing research behind that. But it has certainly proven out at my booth. And it's a silly thing to say, but you need to create enough whitespace on your table that people can see things. You don't want it so jumbled that people can't distinguish one product from another. And that all comes from my years in marketing. It kind of translates from the page to the table.

Amy 27:38

I was just about to say, it seems like your marketing background really helps with your display because I've seen her display and it is gorgeous. It looks really great. And I know that every time I'm at a farmer's market, good displays attract just so many people. So I think that's really important.

Guest 27:56

Yeah, there's no question about that. I actually get comments, almost weekly, from folks who say, "Oh, my gosh, your booth is so pretty." I don't want to sound sexist here, but the majority of my customers are female. So, again, I hate to be so stereotypical. But if it's pretty or cute, it helps it sell. So I bear that in mind as I'm doing my packaging.

Amy 28:20

So you've mentioned a lot of things that people need to take into consideration when considering selling at a farmer's market, some of the rules and regulations, I think you gave great pointers on how to prepare a good product and an attractive display. What other considerations do you think people may need to know about related to selling at a farmer's market?

Guest 28:43

Hmm, that's a good question. You're going to want to consider your travel time. Again, you're going to want to think about whether you want to be mobile or whether you want to be anchored at a specific

market. I've traveled about 45 miles to get to my market every week. So that's something I have to keep in mind as I'm doing my bookkeeping. I guess another thing, too, is you're going to want to consider how much administrative work you want to get into. And that's going to drive your choices into how you incorporate yourself. As I said, I'm getting ready to sit down and do my sales tax this afternoon. I used to be an S-corp. I actually closed that down because I just simply didn't want to have to do payroll and all that paperwork. You're also going to want to consider how big you want to get. You're going to want to consider whether or not you want to have a companion website and whether or not you want to have an Etsy shop. You're going to want to think about how much social media time you're willing to put in every week because that's imperative. That's where I'm my weakest. I'm very good about Facebook. I have never gotten into Twitter. I don't have an Etsy shop, and I could absolutely increase my sales and my consumer base, if I were willing to do that. Holly is spectacular. My friend who vends over in St. Augustine, she's terrific at using social media to grow her customer base and awareness about her products. And I think if you're serious about doing this, that's an avenue you absolutely want to utilize is social media. Yes.

Amy 30:22

So I wanted to finish off with one more question. And I was just wondering, at what point, I know that you had mentioned that you do everything yourself. So at what point would you consider, or do you even want to consider, hiring on help at the market or with any product development? What are your thoughts on that?

Guest 30:40

That's a great question. I've faced that a couple of times myself. And at my age, I have opted not to grow the company because you add a huge layer of responsibility and work when you bring folks in, but you also free yourself up by dividing the labor. It just depends on how much you want to grow. And that's the question you have to ask yourself. I sat down and did the math. And if I bring on an employee, I looked at the numbers, and I was gonna have to go to two other farmer's markets to be able to pay for an employee and the attendant costs there. At my age, I'm not willing to go that. If I were 20 years younger, I would probably have employees.

Amy 31:25

All right, Beth. I've learned so much about your interaction and your time at the farmer's market, what it takes to go into a farmer's market, and it seems like a lot of work. And I'm sure it's very rewarding. But I was wondering if you had any other thoughts or any other recommendations for beekeepers out there who wanted to delve into the world of farmer's markets.

Guest 31:49

Oh, gosh, I wish I had a magic wand to give you the perfect answer for that. But I think the most important thing is just as silly as it sounds, Just be true to yourself, look at your own strengths, your own skill sets, and look at the things that make you happy. And try and govern your choices by that. Get to know your market, and try and strike some balance in your life between work and play. Make sure you leave plenty of time for your bees.

Amy 32:20

Thank you so much for joining us today.

Guest 32:22

Thank you so much for having me.

Amy 32:34

Jamie, that was really nice. I really liked listening to Beth. I think she gave a lot of advice that I don't think I've taken into consideration before speaking with her. I know. I mean, even, I think, from the consumer standpoint, I think after that episode, I'll go to farmer's markets and know like, I know that they are hard workers, of course, and I know that they have their products. But I didn't realize that some markets will go and visit their apiary just to confirm, just to make sure that what they're saying they do is real and legitimate.

Jamie 32:43

One of the things that struck me while she was talking, Amy, is we could just about make a podcast episode out of every facet, like knowing your audience, the rules and regulations of farmer's marketing, when you think about taxes and incorporating and maybe liability and stuff like that, hitting the right customer, the background research, all of these. The whole time she was talking, I'm like, "Good gracious! That would make, by itself, an episode that would be very valuable to just dive into." I'm sure there are a lot of listeners out there who are going, "Man, I could do this, I could do this." And there's there's these types of markets literally around the world. So if you're listening to us from another country, hopefully you learned something in that process from Beth that would really just give you good ideas on how to move forward. Yeah, Amy, it was really a neat conversation. Yeah, that was one of the neatest things, I think, that she said that really caught me off guard. I like that idea. It's like, "Look, if we're going to have a farmer's market, we're going to say that we do these things, then we need to make sure that those who are vending at these markets really are who they say they are." And it's neat that there are markets that kind of employ the test and confirm strategy just to make sure that their products are authentic and represent local fare. And I just really liked that. I liked that idea.

Amy 34:16

Absolutely. So I think moving forward, we'll bring in other beekeepers that are also making money with bees somehow, and I think I'm excited to hear from some of the other guests that we have out there as well.

Stump The Chump 34:30

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

Amy 34:41

Welcome back to the question and answer time. Jamie, the first question has to do with banking queens. And this is from the perspective of a hobby beekeeper with limited resources. They're wondering, what are some recommended methods for banking queens and how long can a queen be banked for before she's no longer viable? So maybe let's talk about what that even means, banking queens.

Jamie 35:03

Yeah, this is going to be a tricky answer. And the reason it's going to be a tricky answer is because the results from banking studies vary pretty significantly. So it's just got to start from the top and work our way down. Banking is essentially holding on to mated queens when you do not need them so that you can have them available when you do need them. And the premise is really simple. You keep a queen in a cage, and that cage is secured such that bees from a hive cannot eat through candy and release her. In other words, she's in that cage and cannot be released by the bees. And then you put that queen in that cage in that hive and the bees will take care of her and keep her alive until you need her later. Now, banking works best when these caged queens are placed into very strong colonies, and the reason this question is additionally tricky is because they're wanting to do this, potentially maybe, throughout winter or other times of year, and so it gets so difficult. So let's just think about it this way. There are studies out there where people have looked at how long queens can be banked. In fact, I'm looking at a refereed manuscript right now that was published in 2022 to answer this question, and they essentially did this, interestingly enough, they did it over winter. And what they found is that they could bank queens for six months over winter. Yeah, it's crazy. So basically, they had some colonies that received 40 banked queens, in other words, 40 queens in cages, and some colonies that had 80 queens in cages. And 74% of the ones from the 40 queen colonies survived six months over winter. But in the 80 queen colonies, only 42% survived. So let's let's put this back down in terms that I can understand. Basically, they had these colonies that they would put 40 queens into and these colonies that they would put 80 queens into and they would see if those colonies could keep those queens alive in those cages over winter for a period of six months. In the 40 queen colonies, they got 74% survival. In the 80 queen colonies, they got 42% survival. So this says, "Hey, look. Yeah, you can get three-quarters of your queens banked over winter for six months in colonies, if you are at 40 or fewer queens in those colonies." And you mentioned that you're a hobbyist beekeeper, so you're probably never going to want to bank that many queens. But when you read this study, they had a couple of things go in their favor. Number one, these colonies were very strong. They used double deeps, two deep brood boxes. They were absolutely full of brood. I think they said they tried to have at least 16 frames of brood to ensure that they had a lot of bees in there to take care of those queens. And then there were lots of bees in those boxes. And you're going to want that because if the bees, if the cluster ever pulls away from the banked queens, those queens will starve to death. So it's remarkable to me that they were able to get three-quarters of the queens to survive a six-month overwintering period. Now, I said earlier that it looks like the questioner was asking about overwintering. They're not asking about overwintering. I forgot the study was dealing with overwintered banked queens. But the question is just saying banking in general. I will say, under these harsh conditions, they were able to get 75% of their queens to live six months, which I think is pretty remarkable. And then they took these queens and they looked at sperm quantity and quality to see if it was any different from queens that were not banked, and they found there were no differences. So the banked queens, those queens that are in these cages for this period of time, unable to lay, their sperm was sufficiently alive in sufficient quality to where they could be used later. And then they put these queens into colonies and found out that the first few weeks of their lives, their escaped lives, they were not able to lay as many eggs as the queens that were never banked. But they had rationalized that it wouldn't take very long for their ovaries to redevelop, re-mature, and then be able to keep up with egg-laying similar to what they were seeing in the unbanked colonies. But they make the statement in their discussion that this isn't true across all banking situations. So the questioner is saying, "How long is it possible?" Well, it depends on the study. This study here says it's

possible up to six months or longer. And it looks like you can reuse those queens but you should expect at least 25% or so mortality if you do that for a long period of time. But the keys are lots of brood in those colonies, lots of bees in those colonies, and you really want to make sure that there's plenty of those and you also don't want to overstock the number of queens. I would say if 40 is good, I would say 20 or fewer is even better, but you really want to make sure that there's lots of bees available to take care of those queens and you should be able to bank them that way for a few months or longer.

Amy 36:37

What? So I've got a couple of questions just as far as from the hobby beekeeper perspective. So let's say a typical hobby beekeeper has 10 to 20 colonies, right? And so if they're banking queens, when they're banking queens, I assume it's just going to be like double the amount, right? You probably don't want to triple the amount unless you have that many queens, that's fine. But when you have them banked, and you have them in these cages in that colony itself to keep it strong, is there one queen that just kind of walking around and laying eggs and doing what you normally do? Or are they all caged together?

Jamie 40:38

Generally speaking, there is a queen running around in the nest. Now, you can create queenless queen banks, and by queenless, the fact that the colony itself is queenless, even though there are 20 or 30 queens banked in it, there's no free-running queen. But I would argue the longer that you're going to want to bank these things, the more you need that free-running queen. Now, the free-running queen can be tricky because, in some of our own experimental colonies years and years ago, we were creating queen banks in queenless colonies, but one of our queen cages wasn't secured. And the queen got out, mated, laying, and she started laying and once they had her, they neglected the bees. But what these researchers did is they didn't make queens the way that we did. And I'm just going to kind of give you two ways that it's done. If you've got this, let's just imagine you've got this double-deep brood box. It's absolutely full of bees and brood. So what we were doing years ago is we take off the lid of the hive, we put an empty shallow super or medium super on top of the uppermost deep box. And then we would just scatter our queen cages on top of the frames on that upper deep box. And those queen cages kind of were within the walls of that medium super. And then we put the lid back on the hive. The way these researchers did it is they modified a frame that could hold queen cages, and they put that frame smack in the middle of the brood nest. And that's where they were getting their success rate pretty high.

Amy 42:08

Well, that's pretty cool. I am fascinated by queens and banking queens and the whole concept. So very, very interesting. Okay, so for the next question that we have, this listener was asking about providing sunflower seed meal. It's a powder, providing this as a source of food for honey bees. And so this person had noticed last January on an unusually warm day in the 60-degree range, 60-degree Fahrenheit range, that honey bees had swarmed around the screen of a sunflower seed bird feeder. So it looked like the bees were eating the dust leftover from the birds that were consuming the seeds and they just loved it. So is that something that beekeepers should or can or provide to honey bees? Or do honey bees like to eat sunflower seed meal?

Jamie 42:57

Well, it's funny that you asked that. So honey bees have been seen collecting all kinds of dust, proteinaceous dust, as well as dusts that aren't very protein-rich. And it almost always happens in the absence of other pollen available in the environment. So by the time you see them visiting bird feeders, I've heard animal troughs where there's corn seed in them as an example. By the time honey bees are visiting these things, that tells you that there's very little pollen available in the environment, and they are mistaking these things for pollen. So I don't think it's very good for honey bees at all. In fact, I'd love to see a study where people follow their use of this stuff. Not only do they collect it, but presumably they take it back to the hive and store it as bee bread. But are they able to convert it to something that's meaningful in the nest? And are they able to rear young off of it? And I'm curious to see those results. And so what I would argue is no. To answer the question directly, I've never provided sunflower seed meal as a food source for honey bees. If I wanted to provide a powder to them at a time of the year that they were not otherwise getting pollen, or if I wanted to divert them from animal troughs, or bird feeders where they're collecting these dusts, I would actually just put out dry pollen subs. So we actually do that here at University of Florida Bee Lab for research purposes, but I know a lot of beekeepers who, during the late fall and winter months, since their bees want to go forage and collect some sort of dust that they prefer to use, these beekeepers will put out dry pollen subs. So you usually can buy pollen subs dry at the manufacturer or pre-mixed, these patty forms. You wouldn't buy them pre-mixed, you just buy the dry pollens subs, put it in some kind of container where rain and humidity are kept out of and you'll notice that bees will forage and collect that. Now, an equally good question, are they using it like pollen if they collect that stuff that way as well? But, in the very least, I would say I cannot imagine that they're getting a tremendous amount of nutrition if they're having to go forage from sunflower dust they're getting from bird feeders or corn dust that they're getting from animal troughs.

Amy 43:58

Yeah, that makes total sense. All right, so for the third question that we have, all right, so this person is from Massachusetts, and they have two colonies. In the fall, they had both of their bees dying. And so their inspector sent samples out. They had CBPV, so I'll let you tell our listeners what CBPV is. And so they have a lot of questions. Okay, so they found out that they had CBPV. And so Jamie, I just wanted to ask you like, what is CBPV? And can you tell us a little bit about it? This person was specifically asking, how do you deal with it as a beekeeper? I assume it's a virus. So how do they get this virus and, maybe, let's talk a little bit about CBPV, what that is, and what to do.

Jamie 45:50

So CBPV is chronic bee paralysis virus, it's just the acronym for that. And we do that a lot in the honey bee virus world, right? DWV is deformed wing virus, IAPV is Israeli acute paralysis virus, ABPV is acute bee paralysis virus. It's just one of those things.

Amy 46:04

So many acronyms.

Jamie 46:05

This is one of those things that we do. So chronic bee paralysis virus is one of the viruses that bees get, and it causes signs of illness similar to what you see for some of the other viruses. Not necessarily

like what you see for deformed wing virus because deformed wing virus deforms the wings of bees or Sac brood virus because it kills brood. But a lot of the other viruses that affect adult bees have these kinds of characteristic signs of infection that I'll share with you now. So they include abnormal trembling where the bees just kind of shake, often they're unable to fly. They're very often shiny and they're shiny, not because they've all of a sudden are super glossy or whatever, they're shiny because they're losing their hair and you're seeing, directly, the plates that make up the exoskeleton of the bee. So they lose their hair, they get this shiny appearance. Some of them can look kind of greasy in appearance as well. So to restate these, trembling bees, flightlessness, you get shiny bees due to them being hairless, you'll often get these bees wandering away from the hive, crawling up blades of grass on the outside of the hive unable to fly. So these are things that beekeepers can easily see. And if the infection is heavy enough, colonies can die from it, individuals certainly do die from it, and you can get piles of dead bees outside of the nest. But you can lose entire colonies or colonies will get too weak for pollination or honey production or maybe they'll be now susceptible to other things. The problem with chronic bee paralysis virus is that, like a lot of the other viruses, there's not currently a whole lot that you can do for it. Some of the recommendations that come out of it are just like the recommendations that this beekeeper said that they were told. Oftentimes, when a colony has chronic bee paralysis virus or any other number of bee viruses, one of the first explanations is, "Hey, look. Bees that are getting it must be susceptible to it. And if they're susceptible to it, it's because the queen is passing on susceptible genes. So let's just requeen them." A lot of times you'll see bees kind of pull out of these viruses if you're getting a strong nectar flow or pollen flow. They tend to outpace the disease in their nest, and then over time, they can take care of themselves. Many viruses get kind of lumped under the umbrella of, "We don't exactly know the role Varroa may play in their transmission, but let's just assume that they play a role in their transmission." So let's make sure Varroa are controlled. So when we talk about controlling viruses, it almost always sounds like requeen your colony, control Varroa, make sure your bees are otherwise strong and healthy, feed them if necessary. But if it gets bad enough, usually if the colony dwindles, a lot of beekeepers will just cut their losses and let the colony die, and they'll save the equipment to use later. Some beekeepers not necessarily recognizing why the colonies dwindling might combine it with another hive. There's just no like treatment I can tell you to run out and put in the nest to solve the problem. Like many other bee viruses, we don't know quite as much about it as we talk about maybe at meetings. But its spread is probably the standard ways of viral spread among colonies, which is bees sharing food with one another, maybe the fecal-oral route when they're defecating and moving feces around. They possibly acquire it when they're robbing other colonies that are weakened where they visit some of the same flowers that sick bees visit. There's just a lot of potential routes of transmission that need to be explored both for chronic bee paralysis virus but also, for that matter, a lot of the other viruses.

Amy 49:47

I hate going to meetings. I love going to meetings but I hate --

Jamie 49:51

Uh oh, you said it.

Amy 49:54

I love going to meetings but I hate when someone asks me, "Why can we not get rid of viruses?" I hate being the bearer of bad news to basically say, "There's not much we can do right now, except to try to control Varroa." There's no cure. And so I hate when I have to tell that to beekeepers is what I meant to preface that as. It'll be interesting to see the scientific world and what research focuses on viruses, I think, in the future.

Jamie 50:24

Well, I mean, it's worth thinking, like, in my own case, if I saw this in my colony, what would I do? Well, if the colony was very strong, I would probably give it bees or brood from another colony to see if I could boost them out of this problem. If I thought it was a big problem when the colony was strong, I might queen it. But if they're super weak, I might just -- you can't rescue the individual bees. So you might just let the colony go. And I'd store the equipment for use later, which begs the question, "Well, how long is long enough to wait?" I would say if they died from a suspected virus in fall, then you could save the equipment and have bees on it in spring and probably be okay. People haven't worked out the, quote, shelf life of these viruses -- how much longer can it remain infected? The questioner asked further down, if I've got frames of honey from this colony that I saved while it was dwindling, can I give it back to another colony later? Well, probably, but the question is, how long is long enough to be later? I personally feel comfortable a few months later, but there's no research to support that. It's just kind of my anecdotal understanding of how viruses work. So there's a lot of this stuff that has to be worked out because beekeepers ask these questions all the time. "I think a virus killed my bees. How can I clean my equipment? How long do I have to wait before I use it again?"

Amy 51:44

Alright, listeners. Well, if you have any follow-up questions from today's Q&A, don't forget to send us an email or message us on one of our social media pages.

Serra Sowers 51:53

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.