EPISODE 206 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 episode of Two Bees in a Podcast. Today I am joined by Eric Malcolm, who is the Apicultural Extension Educator and the Apiary Manager at the University of Maryland Bee Lab in the Department of Entomology. I am excited to be bringing Eric on today. This episode is really for these newbies out there and those that are interested in becoming beekeepers. So, I'm excited to discuss going through and doing colony inspections today. So, before we get to that, thank you so much, Eric, for joining us today.

Eric Malcolm

Well, thanks for having me, Amy.

Amy

So, this is the first question that we ask our guests is just to tell us a little bit about yourself and your beekeeping experience and how you got into the beekeeping world. Oh yeah. Okay, well, yeah, I started beekeeping in 2017, and I was actually a stay-at-home dad. And just before I left my work, I was in the wine industry. I was at an agricultural fair and I was talking with different vendors and things and someone came around who was selling products of the hive. I thought that was pretty cool, and I was like, how does 1 become a beekeeper? And she went on to explain, you have to yeah, go to a class, like learn the basics. But then afterwards, reach out. I'll be your mentor. And I was like, that's really cool. I put that away for a couple of months. As I was saying, I was a stay-at-home dad and realized, you know, after several months of just interacting primarily with a three-month-old and on, I needed a hobby. And of course, I didn't realize how busy that hobby would become. It actually became a lifestyle and a career. So, yeah, I was basically a stay-at-home dad and was like, all right, I'll check this out, and took a one-on-one class. And after that, funny enough, they were hiring at the University of Maryland Bee Lab for a business-related role with Bee Informed Partnership. And I applied and got the job. And actually, that was through a good friend of mine, Dan Reynolds.

Jamie

I'm guessing you're loving beekeeping as much as the rest of us are. Once you got in, you couldn't get out.

Eric Malcolm

Yeah, pretty much.

Jamie

We brought you on, Eric, to talk a little bit about colony health inspection. So, you know, the frequency that you inspect colony is what you look for, etc. So, could you talk about on the front end a little bit about the importance of this and how long does it take to perform a full inspection and what data needs to be recorded?

Eric Malcolm

Oh, yeah. To answer the time question, I mean, with practice, it can take about, you know, 7 to 10 minutes to do a complete colony health inspection. This is not including the actual management that your beekeeper needs to do. But ultimately, what it is, it's an overview of the current health of the colony and it also can give a little insight on the future health of the colony. But you know, we as beekeepers, we know that can change pretty quickly. So a lot of these components will relate to colony survival or if they thrive or not versus failure.

Typically, a full health inspection would include establishing kind of a better understanding of their colony configuration. So, how many size boxes there are, how much space there is, how many deeps, medium, supers, shallows, whatever the beekeeper is using. That can, of course, translate if you have a horizontal format hive, you can keep track of that as well. Like, you know, as far as the size and everything and how often you fluctuate that. It also includes establishing an understanding and an estimate of the colony population. So, you want to count the frames of bees that are packed with bees. Also, it'll include queen status, of course. That's, you know, one of the main things that I think is important to do every time you check the colony. So you're trying to establish whether or not a colony is queen right, or perhaps noting any other kind of queen observations like maybe signs of like a virgin queen or swarming or the queenlessness, etc.

The other thing I think is brood pattern, so what the capped brood looks like. There's a lot of folks that will ask what about like the laying pattern and what the queen, you know has going on there. And while that can also be important and informative, the capped brood pattern actually tells us a little bit more about the colony health versus maybe queen health. But I personally will include weight and temperament. Are they putting on weight at the right time of year in my region? And what kind of behavioral issues are we experiencing? So, I'm actually allergic to honey bee stings. So I do take particular interest in why they're upset. And so that's one thing monitor helps to kind of establish a better understanding of and we can talk about that in a second. I think mite loads is probably the next most important thing here. Just to understand what

the current, whether it's Varroa, or if you're in places in the country that you're dealing with Tropilaelaps and you want to kind of have an understanding of what those look like. That's another important component. And then disease observations like if you spot shiny bees or bees whose wings are sticking out like a K, like K wing, or perhaps if they have deformed wing virus, which here in the States is one of the more prominent diseases that beekeeper sees.

Amy

So, Eric, you know, I'm thinking back when I first became a beekeeper and how overwhelming all of this can be, right? Like, you just listed so many different things to consider in a colony where, I don't think when you get into beekeeping, you usually don't realize how much work or like all these things that you're looking for in a colony. And then it becomes really overwhelming, especially once you start getting into the pests and diseases, right? So yeah, I was just thinking about when I first started and what this all kind of sounded like to me, and it can be overwhelming.

Eric Malcolm

When I started beekeeping, probably a couple of months, and I started working with Bee Informed partnership, and we had a program called the Sentinel Apiary Program that was a community science program that helped beekeepers establish a good understanding of this skill set is like what you need to be able to identify. And time and time again, I'd speak with past participants and they'd be like, oh man, like I didn't know how important this stuff was and how impactful it was to like what I was seeing and even helping to like, train yourself to start noticing those little subtle things, right? But yeah, it can sound overwhelming.

And it's certainly just like anything, I mean, it takes a little bit of practice because I mean, I've, I've also spent probably 20 or 25 minutes doing this type of inspection when I first started. So, yeah, that's another thing with as beekeepers, we kind of sometimes also have to be a little bit gracious to ourselves, right?

Amy

Yeah, for sure. Well, you know, you had kind of mentioned how long it takes to perform a colony inspection. What about recording the data and what does that look like? I mean, are there lists out there that people can use or you know, is there something that they may be like a template they can use to look and document some of this stuff?

Eric Malcolm

Yeah, that's a really good question. I know that some beekeeper clubs have these resources available, and I actually have quite a number of different format inspection notes and record sheets that that I actually would like to plan to put on our extension page at the University of

Maryland site. But at this moment, I don't know if there is a good solid resource for, you know, several types of inspection sheets. But certainly, that's something that we'd love to put up, right?

Jamie

Now, Eric, one of the things I get a lot of, especially new beekeepers asking me about because, you know, they think, well, I've got this box, I know all of these problems that colonies living in that box can have. I need to go into it every day. I know a lot of new beekeepers might try every day or every week, or there's some confusion about how often inspections should be performed. My answer typically is it varies seasonally. And so, I'm curious, can you go over just a general inspection timeline?

I know it's going to be difficult to do that because we all keep bees in different areas. We're in Florida, you're in Maryland and we've got listeners from all around the world. But are there seasons of the year that need more or fewer inspections? Could you just broadly talk about the timeline associated with inspecting colonies?

Eric Malcolm

That's a really good question. Yeah, I actually get that a lot as well. And usually, what I'll tell beekeepers is that it does change at the time of year and that the season that you're in, even what observations have been made during maybe your last inspection or intervention, like, for example, in our spring here in Maryland. So, we get all four seasons here. This time of year, in spring, as colonies are building up and the population is growing, I'll typically be inspecting on average every 10 to 14 days. That's just to monitor population growth in space and then try to catch indications of swarm prep.

So, I'm ready to split them when they're ready to split. But that's just one example. I mean, after that, I may dial it back to every three to four weeks, depending on, yeah, the time of season, what their biology looks like. So, if we've got like here in, again, in Maryland, we kind of have a good dormant season that's a couple months long. And then you're starting in March and April, they'll start building up rapidly depending on, of course, you know, genetics and forage availability and all that kind of fun stuff. And so at that point, it's really important to stay on top of them and make sure that I'm not missing something that happens relatively quickly, like queen events.

But then, yeah, in summer, when things kind of stabilize and they're no longer building up, they're just pretty much working on consolidating resources and getting ready for the fall, yeah, I may not be monitoring that as much. I think, in general, I mean every two to four weeks is a safe bet just because yeah, a lot can happen even in two weeks in a colony.

Amy

So, Eric, the next question I'm going to ask you is -- I think it's going to be a difficult question to answer. The question is, when you're going through a full health inspection, you're going through your colony, what do you feel is the most important component of the hive inspection?

There are so many things you look at in an inspection as a new beekeeper. You're coming in, you're overwhelmed, there are bees flying around you and like, what is the most important thing that you're looking for as far as just an overall colony?

Eric Malcolm

So, really, like before answering that question, I want to maybe answer like why we look at all these different components that I listed off earlier? Because again, they all can relate to one another. They can indicate to a beekeeper what's going on or what's about to go on in their colony. Just to take a step to look at why are we looking at configuration or frames of bees? And then of course, you're happy to answer what I think is the top couple.

But, first off, understanding what your colony configuration looks like, it's looking at how much space is available for use, right? You've got maybe, let's say a deep box and a medium box. So, this is how much space we have for our colony to exist at that time. Now, after that, I'm looking at frames of bees. I want to understand what their population looks like and where it comes to record keeping, how that fluctuates over time.

So, during certain times of year, I think it's very essential to keep track of those two things, particularly, because as bees are starting to build up and bring in resources and fill in that space with brood and different, you know, food resources, they're going to run out of laying space and that queen's going to get cramped and then they're going to start swarm prep. So, understanding how those two things relate is, I think, very important in general, like spring and fall or whatever the production time in your area is.

But then, with queen status, she's really the heart of the colony, right? She's the thing that keeps everything moving and growing. And, of course, she's supported by all the workforce and all of that. But if you have something like a queen event, like maybe a supersedure or swarm, and you're monitoring queen status regularly, you may be more likely to catch a failed attempt at requeening versus walking in a couple months later and finding her -- a couple weeks later, hopefully not a couple of months -- to a laying worker colony, for example.

So that's one thing I think is very important to take a look at. Also, with brood pattern, like looking at your capped brood, in my opinion, this is one of the best indicators of colony health because it's looking at about how many bees are going to be joining that workforce in the future, not necessarily rate at this moment, but it'll also give you a general strong signs of brood health or lack thereof. So, if you see a really spotty brood pattern, for example, with not a whole lot of connectivity between capped cells, that could easily suggest there's something going wrong,

whether that's pathogen related or queen issues or nutrition issues, that's always important, I believe.

Weight, of course. Again, here in Maryland, we get all those four seasons and spring and fall are two times a year. So, again, where we're putting on the most weight in spring and then in fall when I may need to feed because we don't actually, in my part of the world in Maryland, we don't get a good fall nectar flow. And so I need to make sure that my bees have enough food stores to actually make it through the winter. And then of course, I think I mentioned a second ago how I have an allergy to bees. But regardless, temperament, nobody likes to work hot or defensive colonies, right? Sometimes, people kind of question, oh, is it genetics or are there maybe outside stressors involved in things like skunks pestering and feeding off colonies at night where those bees didn't get a good night's sleep? Or are they dealing with high might pressure or robbing? So, I think again, keeping kind of a close eye on that is helpful and important versus just assuming, oh, it's genetics. I need to requeen. I think a lot of us know how important mite loads are, understanding that mites vector different viruses and are destructive feeders on honey bees. And when I say mites, of course, I mean Varroa. But as we know in other parts of the world, they're dealing with Tropilaelaps or different types of pests.

But monitoring those and having an understanding of what's going to introduce issues early will prevent having to deal with all those issues later in the season. And then lastly, pests vary across the world. Diseases, I think we all share and know about at least 20 different honey bee diseases, not to mention the different fungal and bacterial diseases. But being able to spot those. And again, if you can catch something like that early, you're much more likely to prevent loss in the future. So, I think those are the reasons why we look at those things. But, when we're talking about which -- I kind of think of the top three most important components on a regular basis and certainly queen status, again, understanding the queen health and indicators like are we queen right? Did I spot her? Is it the same queen? If you're marking your queens, I always keep track of that as well. Like if I mark a queen, I'll make a little notation in my queen status notes. But that is important. Brood pattern, I think is, again, one of the strongest indicators of current and future colony health and strength.

And again, like mite loads, I think that is, especially here in the US, one of the things I think beekeepers should at least monitor regularly. Not to get into personal philosophies of stewardship and all that kind of stuff. But between those three things, I think they really tell us a lot about what the colony's going to look like in the coming weeks or months.

Jamie

Eric, would you say there is a most critical time of year that you need to inspect colonies or is it pretty universal? So, that's my first question. I'll follow up that with can you work a colony too much? A lot of new beekeepers have that question.

Eric Malcolm

Yeah, that's a good question. So, I think the need for regular inspection goes throughout your active season, right? Like I don't think that one time of year is necessarily most important. I think there are times of the year where depending on, again, local biology and how your bees are doing and all that, there's probably times where you can ease off a little bit. Like I said earlier, maybe in summertime you can kind of back off a bit and then summertime would be like again, when they're not foraging, growing or shrinking. But I think really it's important to monitor regularly. Like me as a beekeeper, if I only took a look at my hives every other month or something like that, I could guarantee that I would be working a lot harder to fix problems than enjoying the process.

And regarding if you can work colonies too much, yeah, absolutely. I think especially depending on where you are in the world. I'm, again, I'm not an expert in this, but friend of mine in Tanzania was mentioning when they work colonies there, if they're in there too often, they'll actually just abscond and take off. I think that can be the case anywhere. If bees don't feel like they have a safe home, and if it's constantly getting invaded and moved around and stuff, I think you certainly increase your odds of causing harm, whether that be killing a lot of bees and they start getting more defensive or perhaps rolling the queen, that kind of thing.

But I don't think you should be getting into colonies more than every two weeks, I think, unless there's always exceptions, right? Like if we had a queen event and I need to make sure that that queen that just emerged, I'd say, okay, I'll give her a couple of days, maybe a week or two to do her mating flights and start to lay and all that to make sure that she's laying. But I wouldn't necessarily want to wait two weeks to see if that requeening attempt worked out. I might want to get in maybe 8-10 days in, just to make sure things are going right.

Amy

There are always exceptions. Biology is messy, right?

Eric Malcolm

Absolutely.

Amy

So, Eric, I want to end this episode by talking a little bit about your role at the University of Maryland Bee Lab. Just tell us about the beekeepers that you work with, and I'd love to hear about some of your extension work.

Eric Malcolm

I love Maryland beekeepers. I mean, I love all beekeepers. They're a fun and eclectic bunch. But our beekeepers in Maryland, they're incredibly interested in learning more about beekeeping. I

think that may be even a kind of an international thing, right? And that's who we're talking to right now. But, it's a pleasure working with them. And that's one of the reasons why I decided to stay with the University of Maryland early on because it gave me an opportunity to work with them. Trying to find areas, for example, with the type of extension I'm doing in the local community is primarily focused on educating people about this, right here, understanding what you're seeing while you're working your colonies and establishing, again, good record-keeping habits through this process. Just because that's been beneficial to me personally as a beekeeper. But it's beneficial, I think, to anybody who takes the time to record things, you know, they'll learn from again what they've done, what they need to do and start recognizing these signs of problems over time through their own observations.

I think it's just really hard to learn to make these kinds of improvements in our beekeeping practices without understanding what we've done and what's worked for us in our practice or what hasn't worked so much. So, that's really what I've been focusing on for the education component of beekeepers here in Maryland.

Amy

All right, as we end this episode, is there anything else you wanted to share with our audience?

Eric Malcolm

I think giving yourself the challenge of really getting to know and understand your bees' biology in your area through this type of inspection looking at all these different components and establishing a system where you can see, okay, have they improved? Are they the same? Are they getting worse? And then establishing a way to kind of move forward efficiently and productively, I think is one thing I would strongly encourage beekeepers to do, is to try to get more, I don't want to say necessarily scientific because that can be scary to people, but really start to look at these components and see how you start to change your understanding of your colonies that you're managing.

Amy

I think that's great advice. Thank you so much, Eric, for joining us today.

Eric Malcolm

Thanks for having me, I appreciate you having me here.

Amy

So, Jamie, I think, listening to the podcast, for our listeners that have started at episode one and continued on with us, I'll just repeat it again. You know, we always talk about Varroa nutrition and queens, right? Those are normally the top three things that beekeepers indicate as challenges or things that they look for that really affect the colony health.

Jamie

It was great listening to him because he's just like thematically on things that we preach from our podcast as well, right? He listed his big 3. Queens, brood pattern, and Varroa. And in some ways, brood pattern might be linked to Varroa, might be linked, sometimes the queen certainly can be linked to nutrition, etc. But we would throw on top of that nutrition. He did mention nutrition throughout the year, especially as you were getting in the fall. And really, those are the same things I look for when I go on to my colonies, really any time of year. Do they have a queen? Is she doing well? Is the Varroa issue under control or are Varroa populations growing? How much food do they have and what does the brood pattern look like? Those are check marks I go through as well when I look at colonies, regardless of the time of year that I'm inspecting colonies.

Amy

Yeah. You've been a beekeeper for a really long time. I've kept bees for about 11 years now, and it's like, I think sometimes we forget, right, like back to the basics because our world is just so consumed of just everything honey bees, right? So, like to us, I think things that we just think about can be very, like I said in the episode, super overwhelming. So, I'm hoping that this episode not only helps the beginner beekeepers out there and those people that are interested in becoming beekeepers, but to also just reminds our advanced beekeepers that these are the things that beginner beekeepers need. And I know that education and workshops are being held. I see a lot of beekeepers providing workshops to beginner beekeepers out there. So, hopefully this episode helped a bit and just, you know, looking at your syllabus and looking at what you're wanting to teach others as well.

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, the first question we have, this questioner read somewhere that bees are attracted to swarm traps that have been charred by a torch. And the reason they're asking the theory behind it is that they're saying that bees are attracted to trees that have been struck by lightning. So, is that true? Are bees attracted to wood that has been charred? Would this work?

Jamie

What an interesting question. I have officially never been asked that question, which means I've never thought about this, which means –

Amy

You don't know?

Jamie

No, no, I had to look up a couple of different sources. So, I used Google Scholar. And if you guys have listened to our podcast long enough, you know that Google Scholar is a separate Google product that can be used by anybody. It's free to use. You just Google 'Google Scholar' and you'll get there. But it can be used by anybody. But it's principally used by researchers, myself included, to search for research related to topics. It's basically a search engine that takes you specifically to research manuscripts rather than anecdotal stuff, which is what you find all over the web. So, I 'Google Scholared' it, as it were, and found absolutely no mention of this at all.

So, then I Google googled it and found a little bit of discussion. Even Google's AI platform put together this long answer saying that yes, this works. So, here's the delium. I have never in my life heard that honey bees are more attracted to nest cavities that have been charred than nest cavities that haven't. That doesn't mean it's not true, it just means I can't find research on it. I could find a lot of anecdotal discussions about it, but just because people are talking about it online does not mean that it is true. The whole attracted to trees that have been struck by lightning thing also is a bit of a struggle for me from a biological standpoint because, in my experience, trees that are struck by lightning are going to die in the next few years, right?

Those trees do not usually survive a long time, and I don't understand why that would be something that honey bees would cue into. In fact, I would argue the opposite. It seems like a living tree or one that's healthy would be one. Now, maybe the lightning, they would argue, creates cavities and rot in the wood and therefore, there were more cavities. I just, I don't know about that. I think bees are just looking for cavities and the most optimum cavity available to them is the one that they're going to move into. So, there are some things we do know. They like 40 liters in volume. They like small nest entrances located towards the bottom of that nest, you know, something less than two inches. They like the nest entrance pointing south. They like that swarm trap to be, you know, 30 feet-ish, 15 to 30 feet in the air. All these are things that they're attracted to naturally when looking to cavity. They prefer old cavities that have old comb in them. So, using those pieces of information, you could put swarm traps in these particular settings and increase your chances of landing a swarm. But I've never heard about the charred stuff. That doesn't mean, again, that it doesn't work. It just means that I couldn't find research to support it. So maybe, maybe not. I'm not sure I would bother myself doing all of that work, but if it's something you do and feel like it's of no extra cost to you, then keep it going. But if anybody out there listening is aware of any research to cause me to shut my mouth, I'll be more than happy to look at it and correct my saying on this in the future podcast episode.

Amy

So far, listeners out there who have followed us from the very beginning and relisted to all of our episodes over and over and over again, they know that there's a really – probably my favorite Jamie Ellis story of when you were stuck under the tree and there was lightning all around you and there was the dead raccoon, right? Red dead raccoon right next to you. For the listeners who don't know this story, you'll just have to listen to the other podcast episodes until you hear the story. But, you know, I'm shocked that the lightning didn't hit the tree and that there were bees attracted to it, you know, after seeing this question and that you would have been like the number one person to be able to answer this.

Jamie

Well, I wouldn't be here if lightning hit that tree! There would be a different second bee on this Two Bees.

Amy

That's true. I guess we'll never know, huh?

Jamie

Hopefully. Hopefully, I'll never discover that way.

Amy

Okay, so for our second question for today. I used to hear this a lot when I first became a beekeeper was about moving colonies and that there was a rule of thumb that you either move your colonies three feet or three miles, or, you know, it was like a couple of inches or a couple of miles. So, they're wondering as far as moving colonies, is it true that you can either move it just a little bit or you have to move it outside side of their flight radius? If it is true, can bees be encouraged to reorient by placing maybe a branch or somewhere near the hive to I guess maybe confuse them of where they're going if they're doing an orientation flight? So, what is the rule of thumb of moving colonies is the question.

Jamie

I like this question because it's so applicable. It has so much applicability for beekeepers really around the world. Even when I started keeping bees, this was taught to me. We've all heard variations of this. 3 feet, 3 miles, 2 feet, 2 miles, right? We've all heard variations. What's the meaning behind that?

Well, here's the simple idea. Let's start with a single beehive in your backyard. Those bees know where that hive is. They've done orientation flights when that hive was moved there. They know where that hive is in context with the rest of the environment, the trees, the fence, whatever visual cues they use to kind of find their hive, they know where it is.

Okay, let's say, three days later after putting that hive there, your spouse complains and says, I'd rather the hive be in this part of the yard because that's where our dog goes all the time. And that this part of the yard is 30 feet away. Historically, if you just move that hive 30 feet away to the spot that your spouse wants it, the foragers who already know where the hive was may come out of where the hive is, do their foraging, and then go back to where the hive was because that's what they remember. And the idea behind this concept is since bees are so good at honing in is that if you want to move the nest somewhere within the apiary, you've got to move it incrementally so that bees will reorient slowly rather than just moving it 30 feet, so to speak, because that will just mess up their orientation.

So, the idea is, you know, three feet or three miles. In other words, if you have to move it more than three feet, say 30 feet, then what you're going to do is you're going to move it three miles away because we know that's the foraging range of the typical honey bee colony. If you move them three miles away, that will push the reset button on their orientation. Then, when you move it back to the yard, you can put them wherever you want to. If you don't have a place to move them three miles away, then you might scoot that colony 3 feet, leave them for a few days, three feet again, leave them for a few days, three feet again and leave them for a few days. And you know, after 10 moves, you're 30 feet away. That's the premise. I either move it three feet or three miles. If the three feet, I move it incrementally to where I get it where I want it to be, but the three miles will be a quicker reset. Again, there's variations, 2 feet, 2 miles.

All of this is technically true, but a couple things to know is that bees actually routinely forage up to 5 miles. So, it probably needs to be a saying like three feet or five miles because, in theory, if you move them within the five-mile radius, then you still technically can get bees coming back to their original site. However, in practice, 2 miles is probably far enough away. If you leave them there for a week, it pushes the reset button and then you can move them back within an apiary. If you truly do need to move bees, you know, 30 feet, 40 feet, 50 feet on the other side of the house to a different spot in the apiary, it probably is better to move it incrementally, you know, two to three feet, rest them for a few days, two to three feet rest them for a few days, so forth.

Of course, that's aggravating as mess, right? It's just, it might take you forever if you got to move like 100 feet. So, that's if you've got one hive. But if you got multiple hives and they're all close together and you only want to move one away, you could just move it where you want it to be. And even if the bees fly back to the original spot, they're going to go to one of the hives that's sitting there, and it's really no harm, no foul. I've actually created splits that I've left in the same apiary as their parent colony. And a couple of things, When I do this, I know I'm going to lose a lot of the bees in that split back to the original nest site.

So, what I typically do is 3 things to help me out in this situation. Number one, I make them very strong with adult bees, knowing that some are going to fly back, so I'll make them much stronger than I actually want to end up in that box, knowing that I'm going to lose some to drift back to

the original nest site. Number two, I make the split in the middle of the day when many of the foragers are out. Therefore, a lot of the bees that are still in the nest would be ones that haven't oriented to that existing nest site. So, fewer of them will drift once I move the nest. And then, number three, I'll make that split with lots and lots of capped brood that I actively see bees emerging from those cells. The reason I do that is because if I make that split and leave it in the yard and I know some of my adult bees are going to drift back to the original nest site, I know since I see bees emerging from that capped brood when I made that split that very quickly I'm going to replace that loss of bees that drifts back to their original nest site.

So, technically, the 2 feet 2 miles, three feet three mile saying is true, but a lot of people ignore it and just make splits. And if they do that, or if they want to move their colony, they just move it. If they want to move their colony, they might move it and leave a dummy hive back in the original spot and catch those bees over time and take them back to the new spot. But if you have multiple colonies in an apiary area, it really doesn't matter because those ones that are confused will end up drifting to whatever was nearest their original hive site. So, technically, it's true, but I don't think it's one of those make-or-break things that will devastate a colony.

Amy

Yeah, definitely. You know, we've moved a lot of colonies around. We've moved colonies when we go to our bee college events, right, Jamie? I mean, we've moved them just for the weekend or a couple of days. And in that scenario, a lesson that I learned was that we should definitely have an empty box to catch all the foragers that come back to that location. I think, you know, as a responsible beekeeper, that's probably something to consider that you may not think about when you're moving your bees because you're just moving them to a new location and you'll, you know, they'll figure it out or you'll start over. But don't forget about those foragers because your neighbors may not be happy or wherever your bees are may not be happy about foraging bees coming back and not being able to find their home.

Jamie

100%. That's why so many beekeepers move at night time, right? Because the idea is you capture so many of the bees in the nest, and even if, like a commercial beekeepers might leave a single dummy hive in the apiary to catch the drift from all the colonies that they moved.

I will tell you in this 2 feet, 2 miles, 3 feet, 3 miles thing, to me it's like, frankly, it's just way better to move them away and move them back. You can do all that in one week as long as you have that second site where you can move them, a friend or a family member, because moving it incrementally is a bit of a pain.

Amy

Yeah. Definitely. All right. So, for the third question that we have, this individual is trying to make honey. The question is when they're trying to make honey, is it better to have fewer hives that have more honey supers or is it better to have more number of hives with fewer honey supers?

Jamie

Very nuanced answer to this question, so let me just explain then what I mean. Every site on planet Earth that has lots of nectar and lots of pollen has a carrying capacity for bee colonies, and all of these sites are different. The general rule of thumb in the average nectiferous area, area where you get an average amount of nectar, the general rule of thumb is about 30 colonies to an apiary is what you want to max out. Of course, commercial beekeepers, depending on need, depending on flow, depending on location, might have more, fewer than that.

But the average apiary is usually 30 to 50 colonies. And usually if you're getting up in the 50-colony world, you're either pollinating so you're not worried about honey production, or it's just a holding yard. Now, this question is asking a very specific question. We're trying to make honey. Is it better to have a few hives in the yard and add more supers or more hives and fewer supers? I would argue to you that your site is resource limited. All sites are resource limited. No site has an indefinite amount of resources for honey bee colony. So, there is absolutely, unequivocally a point of diminishing returns for the number of honey bee colonies that maximize honey production.

So, let me explain what I mean. Let's just give a simple math example. Let’s say that if I keep 10 colonies in my backyard, that each colony will produce 50 lbs of honey per colony. So, I've got 500 pounds.

Let's say I added an 11th and that one makes 50 lbs. So, now I've got 550. Let's say I add a 12th and now they all only start making 45 pounds per colony because it’s resource limited. You know, at some point there's no payoff to adding colonies, right? At some point, the reduction in honey production across the board brought on by the addition of one colony is not worth the addition of the one colony. So, questioner, it's going to take you some time playing with this in your own situation to figure it out. So, this is a great question because let's say that five healthy colonies could produce the same amount of honey in your apiary as 10 healthy colonies. Well, do you want to manage 10 colonies, or do you want to manage 5 colonies? I probably would say, well, shoot, if my carrying capacity is five, I would rather super up five colonies with a lot of supers and just get it all from them than to have to manage 10 colonies.

So, it's a bit of a nuanced question. There is no better or worse. It all depends on the carrying capacity of that apiary. And there is a point at which you're going to hit those diminishing returns per colony, which is, anytime I see questions like this, what I throw back to the questioner is find two or three commercial beekeepers in your area because they will just know this stuff. They'll

know it because they've had to make their livelihood making these decisions and say, hey, listen, commercial beekeeper X, what's your carrying capacity in a yard where you start getting less honey per colony? And they'll say it's X. And then you go to the next commercial beekeeper, commercial beekeeper Y, you know, do this over two or three commercial beekeepers. Take an average. And that's what I would do is I would try to maximize honey production based on the number of colonies. And at that point, adding colonies isn't better, just adding supers would be better.

I wish that I could give a "Here it is. Here's the rule." But it really is nuanced and it's all resource dependent. For example, where I live, I could not manage more than about 5 colonies in my apiary because there's just so few resources available in the environment. So, having over that is really just, I'm adding more management for less return.

Amy

Right. Right. So, just play around and see what time of year things are blooming and ask around other beekeepers that I've been doing it for a while.

Jamie

Absolutely.

Amy

All right, listeners. Well, thank you so much for your questions. You've been emailing us, which has been great. If there are listeners out there who would rather send us a message on either Instagram, Facebook, or X, please do that. We love to see your questions. Jamie and I are not tired of answering questions, so keep them coming. We have a lot of fun with this.

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

Visit the UF/IFAS Honey Bee Research and Extension Laboratory's website, UFhoneybee.com, for additional information and resources for today's episode. Email any questions that you want answered on air to honeybee@ifas.ufl.edu. You can also submit questions to us on X, Instagram, or Facebook @UFhoneybeelab. Don't forget to follow us while you're visiting our social media sites. Thank you for listening to Two Bees in a Podcast.