

# Episode #61\_mixdown PROOFED

Wed, Apr 06, 2022 12:25PM • 47:02

## SUMMARY KEYWORDS

bees, beekeepers, hive, land, landowners, package, jk, comb, contract, places, contact, beekeeping, florida, brood, frames, jamie, larvae, extension agent, amy, swarms

## SPEAKERS

Amy, J.K. Yarborough, Jamie

### 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. Welcome to another episode of Two Bees in a Podcast. In this episode, we'll be joined by JK Yarborough who will discuss beekeeper relations with landowners. In our five-minute management. We'll talk about how to install a package of honeybees. And we'll finish this episode with our Stump the Chump segment where I answer your questions. Thank you for joining us on this episode. Amy, I've got a question for you to start this segment.

### Amy 01:17

Uh oh.

### Jamie 01:19

It's not a hard one.

### Amy 01:19

What is it?

### Jamie 01:20

You know, I think about all the things that beekeepers talk about and all the things that they quote, need, right? They need food for their bees, they need time to work their bees. But do you happen to know what one of their chief needs is?

### Amy 01:34

I do but I'm not going to say it. So what is it?

**Jamie 01:38**

You're-- It's what we're talking about in this podcast segment, right? We just know you know it. So that's why you don't want to say. All right, one of the things that they need more than anything is they just need places to put their bees. Sometimes those places are just for the purpose of keeping bees there. Right? Maybe it's just a holdover yard as they're kind of between things. But sometimes it's places that provide good forage for their bees, you know, places where they can keep bees to make honey or places they can keep bees for good pollen resources. And that's what this segment is about. You know, beekeepers are constantly looking for places to put bees. And there's one thing that all these places have in common is someone owns or manages those locations. So beekeepers have to have good relationships and develop good connections as it were with these landowners. So here with us to talk about this today is J.K. Yarborough. He's an extension faculty member of livestock and natural resources in Orange and Seminole County, Florida. JK, thank you for joining us on this segment of Two Bees in a Podcast.

**J.K. Yarborough 02:38**

Oh, thank you for having me. Happy to be here.

**Jamie 02:40**

Absolutely.

**Amy 02:41**

Jamie, you want to know something fun?

**Jamie 02:43**

I do. Of course, always.

**Amy 02:44**

So I used to teach beekeeping classes in Orange County and JK taught the chicken keeping classes even though he doesn't really like birds. He... Hopefully, your clientele won't hear this, JK. But he actually took over my beekeeping classes in Orange County. And so now he's working with all the beekeepers in Orlando and the surrounding area, which is pretty cool.

**Jamie 03:06**

So JK, I'm not going to ask if you prefer chickens or bees, because we all know the answer is, of course, bees.

**J.K. Yarborough 03:11**

Of course, absolutely.

**Jamie 03:12**

But I'm very grateful that you're joining us today to talk about connecting with landowners, it's something commercial beekeepers talk about a lot, the need for land, places to put their bees and you've got some recommendations for us. So before we get there, JK, you know, Amy gave us just now a little bit of background about, but how did you end up connecting with bees and beekeeping in the first place? I mean, it sounds like your background's livestock and natural resources. But how did you find yourself having to respond to beekeeper needs?

**J.K. Yarborough 03:39**

Yeah, that's right. So like you kind of mentioned, I grew up in more of a cattle operate cattle background. So I grew up in Geneva, Florida, where my family had a beef cattle commercial cow calf operation that I'm the fifth generation to help run. And so coming up in that lifestyle and going through college, I was cattle and horses pretty well through and through. And so whenever I got out of grad school, and this position became open, I jumped at it and became the livestock extension agent for Orange and Seminole counties. And then on one of our many conferences or in-service trainings, somebody had brought up the topic of don't forget that bees are also considered livestock in the state of Florida. And when I heard that, I thought well, that's, that's interesting, because, you know, from my point of view, with extension, my job being livestock and natural resources is to try to provide some kind of information for anybody that meets those recommendations or meets those requirements for my clientele. So you know, anybody who has any sort of livestock, I feel it's my job to help them the best I can. And so when I heard that, I thought, whoa, I'm going to start learning how to do bees and all this other stuff. Oh, man, that's gonna be a whole lot more work. But luckily at the time, I had agents in both of the counties I worked in that were covering it for me. So Amy, for instance, was in Orange County. She was already doing a great job. And I, you know, I had a meeting with her one day and I said, "Hey, you, you got this, right. I don't have to do it." And she's like, "Oh, no, don't worry, I love this, it's like the preferred, my favorite part of the job, really." And I said, "That's great, because that means that's one less thing I have to do." But then Amy moved on do bigger and better things.

**Jamie 05:17**

And we got her.

**Amy 05:18**

And then I left.

**Jamie 05:19**

There was a void. So but you got sucked into the vacuum. Right?

**J.K. Yarborough 05:23**

Exactly. So she left, there was a void. And I thought, well, you know, I still feel it's my duty to help the people the best I can. So time to start learning how to do some bees stuff. And so, and secretly, my father has always been interested in bees as well. But he's never had the opportunity or the time to really go about it. And so whenever I saw that this was an opportunity for me, I jumped at it and started doing everything and anything I could to try to learn more about bees and start offering classes and

things of that sort. So yeah, that's really how I kind of got involved. It was really Amy leaving that kind of forced it upon me, but I was happy to do it.

**Amy 05:56**

You're welcome.

**J.K. Yarborough 05:58**

Yeah. Thanks, Amy.

**Amy 06:00**

Okay, so JK, we, you know, as the lab we like to train and educate just about everyone. And I think one of my focuses for this year is working with trainers. So I'm working on a lot of Train the Trainer educational opportunities. And so we've been training extension agents, just about the honey bee industry, and some of the needs that commercial beekeepers have. And so a topic, you know, that Jamie had brought up earlier was just the need for land, and how beekeepers are searching for locations for where to put their colonies. And so why do beekeepers need to connect with landowners? And what is so important about this relationship? What kind of landowners might beekeepers be connecting with anyway?

**J.K. Yarborough 06:45**

Right. So like you mentioned, Jamie kind of hits on some of the topics earlier, but is that all beekeepers no matter what size really are going to need some land in their beekeeping career, even if you're just a, you know, backyard beekeeper, there may be times when you need to make particular splits, where you need to separate your new hive somewhere else. So that way, there's not, there's less drift, or if you're doing a mating situation, take them somewhere else. So you're always gonna have to have a different spot. So you know, as a beginning beekeeper, you always want to get all your perfect, your right tools, and have everything prepared and ready for your bees whenever you get them the first time. But land is one of those things you don't think about as needing whenever the time comes -- until the time comes really. And so no matter what size operation you run, you're still going to need some land from again, you know, obviously commercial guys, they need some, for various reasons, you know, whether it's just a holding, a holding yard again, like Jamie mentioned, to just hold them over until the next contract or to try to boost numbers. Again, even as small as your backyard, people need some special places to be able to store some bees or to help grow whenever the swarm season comes. So everyone always gonna need to have some sort of land. And another reason why I think we need to consider that connection with landowners is that, you know, bees are going to go to other people's land, regardless of where they're at, usually. So um, I like to think of it, again, I grew up in a cattle operation. So the state of Florida actually passed that fence law in 1949. And so that was whenever you needed to fence in your land, before that cattle just roamed wherever and they were expected, or, I mean, kind of, you know, enticed to go on to other people's land. And, you know, I like to think of that today. The bees are kind of the cattle of back then, they just go wherever, you know, wherever the eating is good, essentially. And so you can sometimes want to make sure you have a connection with your landowner around your area, also to be able to let them know, hey, I have bees, so be expecting to see some of

these bees in your area. That way also, you know, if you ever do have a swarm situation, they might be able to contact you and you're able to recapture that swarm.

**Amy 08:52**

Yeah, for sure. It sounds like my dog. And what he did this morning just felt like roaming off into other people's properties. You know, what about urbanization? You know, we live in a very, especially you, you live in a very densely populated area.

**J.K. Yarborough 09:08**

Yeah, that's right. So I cover Orange and Seminole County. So I get a little bit of both worlds for sure. I get the city of Orlando but I also get, you know, folks who have land and cattle ranchers on the St. Johns River as well. So I get both, I think I get the best of both worlds. So in those urban areas, while there might not be vast tracts of land available, there still are quite a bit of small pieces of land. That's what's great about bees is, you know, no matter how small a spot, they still are able to utilize whatever is growing in that area. And so even in those urban areas, even small spots, such as medians in the road, are viable to our bees, and so we have to take that into account as well. So these urban areas are still, while they're growing, they're still able to provide a little bit of something to our bees as well.

**Jamie 09:54**

I think this is such an important comment. You know, every time I speak with commercial beekeepers or there's a group of commercial beekeepers in the room, they routinely talk about limited access to lands and there's been efforts nationally in some places to restrict beekeeper access to things such as state or federal parks or federally managed lands. Because, you know, honey bees aren't native. And I know, even outside the US, we've spoken with colleagues in Australia and elsewhere who've had similar problems. And I know, within Florida, our commercial beekeepers are routinely just looking for places to put bees. And in fact, you'll hear a lot of them note that the density of bees in an area is really great, and they need to be able to spread those out. But for some reason, it can be difficult to connect with landowners as they search for places to put their bees. So how can beekeepers connect with landowners? How can they find these individuals who have prospective places where they can drop their colonies?

**J.K. Yarborough 10:56**

Right. So, you know, connecting with different types of landowners certainly can be difficult. But as long as you're persistent, and you look down the right kind of alleys, there certainly will be avenues for you to look down. You know, from a public standpoint, it kind of, it can be very variable. So when dealing with governmental, like exactly like you mentioned, Jamie, talking with conservation lands or other governmental owned lands, it's very, it changes just entirely depending on whatever government you're dealing with. So your local ordinance, your local county government might be completely different than a city-owned government, or land. And so those can be real variable. But another one we like to look down and think about is private landowners. And so I like to think of there being kind of two different types of private landowners that we most commonly see in the United States, or at least here in Florida. So I think of those who use the land as a business itself, they own the land, and they're using it as a business. And then there's others who use the land as a potential value, they're essentially using it as a

financial asset that they're holding on to one day, and hoping to increase wealth in time. A way to connect with some of those people is to, if it's a private business that they already operate on the land, is to look to see what kind of operation it is and look towards any kind of associations that deal with that commodity. So for instance, if it's a cattle ranch that you see down the road, or something where you'd like to keep some bees, contact the local Cattlemen Association in that area and see if you can contact them and connect with them to see if you, you can get that contact via the association. If it's a nursery, for instance, there's the other associations like the FNGLA, which is Florida Nursery Landscape and Growers Association. Contact with them, just see who's in that association as well to connect and see whose land that really is, because that's a big, one of those big hurdles that beekeepers try to have to get over it, you know, whose land even is that? I don't, you know, I don't see somebody out there on a daily basis, maybe, so it may be difficult to try to make that connection if you don't really know whose land it is. And then another way to try to connect and see whose is what is using the property appraisers website. So a lot of the county's property appraisers websites have an interactive map, actually, where you can pull up almost every parcel of land in the county. And you can see actually, who owns that land, and you can have some contact or mailing information there to allow you to contact them that way as well.

**Amy 13:34**

I feel like you're missing one important group of people.

**Jamie 13:37**

I know where you're headed with this, Amy.

**Amy 13:39**

Do you, Jamie?

**Jamie 13:40**

I think I do.

**Amy 13:42**

How about their local extension agent?

**J.K. Yarborough 13:45**

Yeah, well, I mean --

**Amy 13:46**

JK is like, I don't know anybody.

**J.K. Yarborough 13:48**

Yeah, I don't know who that is. No, of course, I'm saving the best for last is the way I like to think of it is your local Extension Agent for sure is going to be able to help you with making that connection, maybe. Maybe not always providing you the exact answer you want. But they'll definitely be able to put you down a path that will help you attain success. So I know from my instance, I often get contacted by

people who are, oh, I have five acres, and I'm trying to get the agriculture exemption on it. And I heard bees is the way to go, can you just send me some bees? And, you know, I, obviously I can't do that. But what I can do is I can get you in touch with something like your local bee association. So I'll send them the contact information or I'll invite them to a bee association meeting for them to you know, talk and explain to people, hey, I have this land, could y'all-- anybody be interested in coming and bringing out bees in there? And I've definitely had some success in that route as well. So I just don't want to give the expectation that every extension agent is going to know where every piece of land is and who owns it and you can, you know, go put up bees there, but we definitely have some tools that will definitely we can give you and help you with to achieve success.

**Amy 14:59**

Alright, so, you know, something that I typically hear about is when beekeepers do work with landowners, there's typically some sort of contract, whether that's, I mean, sometimes I hear it's just an agreement, and you just shake hands, and you're on your way, and you're good to go. Can you tell us a little bit about the importance of contracts when connecting, when beekeepers are connecting with landowners? And do you know if this is common for beekeepers to have with landowners?

**J.K. Yarborough 15:25**

Yeah, so the contract can be for sure a thing, and like you mentioned, it sometimes can be a handshake deal. You know, if you find somebody that is interested in keeping, interested in doing a deal with you, keeping your bees on their property, you know, they might just want to do a handshake deal. Now, that's entirely up to you, the beekeeper, you know. This is a person maybe you don't know. So you might not feel too comfortable with doing a handshake deal. And that's okay. Just if you, if you do, if you want to have a contract, try to keep it as simple as possible, but still covering your bases. That way, you know, having that contract gives a level of expectation that both you and the landowner can rely on and expect in the future. So some things that might be in the contract or might not be in the contract, but some things you want to keep in mind that, you know, if you do get to have one of these contract deals, or opportunities to work with a landowner and keep your bees out there, some of the things that I've seen that help make that contract run smoother and allow for continuation are things like, be sure to contact the landowner before you ever, you know, actually go out onto their land. That might kind of seem like an obvious situation, but to others it might seem a bit extreme, you know, contacting them every time you go out there. But yeah, we want you to do that. Because often that business, if for instance, it's if it's agricultural business that's going on in that land already, that business on that land is actually that could be that owner's entire livelihood. So they're naturally very protective of it, they want to make sure everything's operating smoothly, and they don't want allow for any kind of outside interference going on in their operation. Because it, you know, hurts their bottom line immediately. So if they permit you to, you know, use their land to keep bees, make sure you show them some respect by giving them a quick call or any kind of heads up beforehand, so that way, they're not caught off guard whenever they just see somebody out there, you know. So just make sure you give them a heads up before you go on their land. Another thing to do is really do your absolute best to control for swarms. I know we're already doing our, you know, everything BMPs could try to control for swarms, but you know, really make sure you try to control for those swarms, because one of the more popular, I suppose, reasons that I hear of landowners not wanting to have any bees on their land is

because of potential issues that could, would or have happened from having bees on their land. So swarms in inconvenient places definitely cause the landowner possibly to lose money. So you know, those swarms love finding crevices and electrical boxes and things like that. So you know, if you're, you know, if they find an operation, you know, a spot where agricultural business that's going on in that land already, the swarm could interfere with, you know, it's going to cause some problems, and the land owner might actually lose money from you having your bees on their land, and that's the fastest way to make sure they terminate a contract with you, and they'll never have bees on their property again. So be sure, you know, you try to control for those swarms. Also, whenever, you know, you're moving in and out. If you had to open any gates, you know, sometimes whenever we're loading trucks and moving bees in and out, we have to get a gate. If we're stopped there, the bees may, you know, sometimes congregate around a fence, or the gate posts and things like that. And so oftentimes, landowners, you know, when they come back in a few moments, you know, behind you to get that gate in there, they seem to be swarming, or, you know, not swarming, but you know, flying all around, you know, there's that misconception of bees, I don't want to get out and I don't want to get stung or anything like that. So they kind of have a negative connotation with that. So if you can, whenever you go to, you know, move your bees try to be quick with it. Maybe have somebody else getting the gate before you that way, you know, whoever's driving the truck with the bees can just keep on driving straight, or carry some sort of, you know, bee repellent or something like that, that you can spray on the gates and gate posts, that way, they're less likely to want to congregate in that area. And then of course, the having the contract, a good contract that's simple, but lays out terms, you know, lays out the expectations for both you, the beekeeper, and the landowner as well. So we want to make sure that we have expectations for both both parties, things such as you know, responsibilities of the beekeeper, which include, you know, the time that you're going to have your bees there, both entrance and exit, the location of where they're allowed to keep, where you're allowed to keep those bees, how often you expect to come out there. It doesn't have to be, you know, when it comes to the frequency of your visits, it doesn't have to be precise. But you know, if you have an idea in the back of your mind, I'll probably be out there two times a month, you know, just include that as well. But also, the, you know, the path you're allowed to take to get to your bees. So sometimes there might be different entrances that the landowner wants you to use. So make sure you have that written out as well. So that way you know what's expected of you. But then also responsibilities of the landowner as well, such as gate combination. So if you have your bees inside there, and they have the gate locked, that you don't have the combination to, you know, that's a tough situation and you have to make sure you contact them. It might be early in the morning, such as if you're moving bees in and out, and they might not be up and that might, you know, cause a little issue between the landowner, but make sure you have any kind of gate combinations you need, again, approved roads that they want you to travel on. Make sure you have, if they intend to spray any sort of pesticides, that they, you know, pertains to their other agricultural business, make sure you have an idea of what that's going to be and when that's going to be so that way y'all can work together to see, you know, timeframe, when's the best time to move the bees, when's the best time to take them out? Is it going to affect them at all? Things like that. So that contract is really, it's an important part, I believe. But it doesn't have to be too complicated to make it an important piece to the operation.

**Jamie** 21:12



JK, I agree with you completely, especially when the advice here is really kind of under the assumption that these beekeepers are going out and finding new sites. So it's very unlikely, maybe in these instances, that they'll actually know the landowner in the first place. So they're probably being introduced to them through those individuals, you've said, you know, the property appraisers or tax offices or grower associations, etc. So, these landowners or managers probably are unknown to the beekeepers. And now, you know, in that case, I think contracts are a really good idea, you know, because the landowners, what I've discovered in the last 10 or 15 years is that there's a lot of individuals who've heard that bees are dying, and they want to do their part to help. And we've even been approached at the University of Florida, by large landowners that, "hey, I saw your talk about bees, you know, I happen to have a lot of land if you guys ever need a place to put bees, bring them on out." And I think that they kind of live under this, you know, impression that we're going to drop bees out there and everybody's gonna be okay. But you're right, they're going to show up at gates, they're going to swarm onto the sprinkler system that the worker has to go out and take a look at. And you know, in instances where these are ag areas or areas where pesticides are used, they are going to spray pesticides, and beekeepers gonna want to know that. So I completely agree that a contract is necessary. You know, more often than not, especially in this day and age when we've got such sue-happy people out there, one of the things, JK, I mentioned, I'll get your comments, so there was a land, I believe some years ago, about a decade or so ago that I was made aware of a land that was available, that was a forested area. And when they found out that beekeepers use smokers, they were super nervous about having smoker use on their land, because they just knew that there was going to be a fire that goes through their timber, and they were concerned about it. So they demanded that beekeepers have insurance if they were going to keep bees on the land, that way, if something happened, whatever the land was being used for wouldn't be in financial jeopardy. I mean, you mentioned that earlier, the landowner may be using that land for financial purpose. And so if a smoker fire goes through, or if there's a loss of something as you related to your beekeeping practices, they wanted to be insured. What are your thoughts about carrying insurance if you're using someone else's land?

**J.K. Yarborough 23:27**

Exactly, yeah, you nailed it right on the head there, Jamie. It's definitely something you're going to want to have into account, you want to have some probably, because, like you said, in a sue-happy world that it seems like we're in nowadays, you know, you can just never be too careful, especially, you know, accidents that we can't prevent. So having some sort of insurance definitely will give you that peace of mind, both you and the landowner as well, having some sort of peace of mind of in the event that something, you know, was to go terribly astray, you know, everybody's going to be happy in the end, and we're all going to be covered. So I definitely would recommend having some sort of insurance to make sure that both sides are covered. Yeah, a couple more things. One, you know, since you're gonna be keeping your bees on somebody else's property, and you're not always there, you might want to keep some sort of contact information posted around the apiary, that way if something was to happen, they're able to contact you, the beekeeper to make sure you know, you're able to do some sort of interaction if something was to happen. So for instance, if you know, a bear was to be able to get into your apiary and start knocking stuff around, getting some brood, you know, if one of the people who are working on the operation goes by and sees it, you know, they'll be able to contact you directly and

say, hey, I've seen something going on here. So I would definitely recommend having some sort of contact information posted around your bee yard. And then also make sure you're going to be following whatever the local and state regulations are for keeping those bees in that area. So, for instance, if you're living up on the state line, and you get a deal working in, keeping your bees across the state line in another state, you might want to follow and make sure you're following whatever those state regulations for that state are, wherever you're keeping those bees. So make sure you're in compliance that way, not only you're covered to make sure you don't get in trouble, but you also don't want to know you also want to make sure you're not getting your landowner in trouble as well, because that also creates a situation where you might not have -- you will have some tension and if you get your landowner in trouble, you know, chances are, you're not going to have a re-up on that contract and you just lost that land. So those are two other points that I think I would like to add, you know, when it comes to dealing with landowners.

**Jamie 25:19**

So JK, any other pointers that you can give the beekeepers who might be keeping their bees on land that's not their own?

**Amy 25:42**

That's great. Thank you so much. JK, I feel like you're talking about contracts. And we're saying to keep it simple, yet there are all these different factors that go into it, and things that, you know, need to be taken into consideration. And you would think that maybe we'd have something available for our listeners to look at and look back on. And so do we have an EDIS publication that focuses on this?

**J.K. Yarborough 26:04**

That's right, Amy. We actually do, so we had some brilliant minds who looked ahead and thought it would be a good idea to make--

**Amy 26:10**

Brilliant minds, Jamie. I think he just called you a brilliant mind. I don't know.

**Jamie 26:14**

He said, brilliant minds. It makes me think I've got two minds, maybe. That's okay.

**J.K. Yarborough 26:21**

So we do have, thanks to Dr. Ellis, we do have a contract, or a kind of a sketch up of a contract online on our EDIS publications, that you people can go and look up and they can just take that. And he has a lot of those key points that we mentioned earlier, already kind of written into that contract. So they can take that and you know, maybe add to it or take away from it, whatever they need. But it's a really good skeleton for them to start exactly what kind of contract they're looking for. And we have that right there on that EDIS publication.

**Amy 26:50**

Great. And we'll be sure to add that to our additional resources in this podcast segment. So JK, is there anything else that you wanted to add before we wrap up?

**J.K. Yarborough 26:58**

I think I think I'm good. Thank you,

**Jamie 27:00**

JK, yeah, I think listening to you talk about this, really, I think it would be a really good idea if we can put together a fact sheet you listeners out there who are interested in this. I know it sounds like we were talking about Florida and the US specific, we recognize that we have a global audience of beekeepers listening to us, but it's going to be similar everywhere. You know, if you're looking for land and beekeepers often are, it's going to be common places we could all go again, grower groups, other beekeepers, the managers of local state or federal lands, I even think about hunting groups. There are oftentimes individuals who hunt and lease large areas of land and they might have connections, tax property offices, so we'll make sure and link this information in the show notes, along with JK's contact information. So if you guys have questions, you can get back to him. JK, thank you so much for joining us on this episode.

**J.K. Yarborough 27:46**

Thank you, Jamie, and thank you, Amy, for having me today. It's a pleasure.

**Jamie 27:49**

Everybody, that was JK Yarborough, who's an extension faculty, livestock and Natural Resources Specialist at Orange and Seminole County, Florida and we've talked about how to find new lands connecting with landowners so that you have more places to put your bees. Thank you for joining us on this segment of Two Bees in a Podcast.

28:13

For additional resources, visit the podcast page on our website, [ufhoneybee.com](http://ufhoneybee.com)

**Amy 28:18**

All right, it's the five-minute management time. A lot of people purchase packages or nucs and so today's topic for the five-minutemanagement Jamie is how to install a package, and go.

**Jamie 28:37**

Absolutely. I'm going to give one caveat. I have, I've absolutely installed a ton of packages at work. But personally, as a beekeeper, I've never started a colony from a package for myself. Now again, I've done a lot for research purposes but never for myself, but it's all the same. What you do is you have an empty hive, right, that's got 10 frames. You remove the four or five centermost frames from that hive and set them aside. Then you go to your package, and you mist it lightly with water on both sides. Now a lot of folks use sugar water at this step because they think the bees just want to drink the sugar water, it'll keep them calmer, but sugar water, in my opinion, makes everything sticky so I cannot stand being sticky when I'm working bees, so water does the same thing. So I'll take my package, mist the bees on

both sides with just a hand pump sprayer of sugar-- there I said it, of water, bounce the bees down, spray the bees that I see. I kind of turn the package, spray the bees, turn the package, spray the bees. I'm wanting to make sure that all the bees are misted with water. If you only mist the outside of the cluster, then the inside bees aren't able, aren't misted. And the reason you mist them in the first place is you want to be able to keep them from flying. You want to take off the lid of that package, and all packages come under that lid, with a jar or a can that provides feed for the bees while they're traveling in that package to you. And they also come with a queen cage. The queen is not from the same hive that the bees from the package are from. So ultimately, the queen travels in a cage on her own so the bees don't kill her. So you've got the bees in the package, a can with sugar syrup, and a cage with the queen. So you take out the can of sugar syrup and the queen cage. You take that queen cage and suspend it between two frames that are still in the hive. Then you dump the bees from the package into the space that you created in the hive by removing the frames in the first place. So you literally shake that package, bees pour out like a river. Now that's the traditional way of doing it. What will happen is the bees will pile up on the bottom of the hive, there'll be a good pile of bees, you let them disperse a little bit, then you sit the frames back in to the space that you took them out of. And now you've got the queen between two frames slightly off to the side, you've got the frames replaced where you had them vacated and where you've shaken the bees. And now you return the lid. Just one quick comment about this though, is you don't really, when you put those frames back into a hive, you don't want to force them in because there will be a mound of bees on the bottom board of that hive where you've shaken them in there. You don't want to smash them with the frame. So I lightly put those frames in and kind of work it down until the bees disperse. One note about the queen cage is when you put it between those two frames, you're going to want to remove the cork on the candy side. So the bees that are now in the hive can eat through that candy and release the queen. It's also a good idea to feed the package upon installation, because if, especially if you're installing them onto frames of foundation, because more often than not, you're installing them into a hive that has no food, right, so you want to provide that food for them. There is another good way to install packages. And I'll just mention this briefly. If you're installing one or two packages, the way I just described is a good idea. However, if you're installing 10, 15, or more and the same apiary, you can get the bees really flighty and they can drift really bad between hives. Remember, they're not loyal to any hive at this point. So, the bees from hives, one, two and three may drift heavily to hives, four, five and six. And so the way that I try to combat this is do a slow release, and I do the slow release everything the same. I mist the bees, I remove the lid, I take the queen and secure her between her cage between two frames, I remove four or five other frames from the hive. But instead of dumping the bees in in this case, I set the whole package in that space created by removing those four or five frames. And with the lid off of that package, the bees will slow release themselves from that package over the next few hours. And that's a slower introduction into that hive. And I've seen it result in far less drifting between hives. The only catch with this is you'll need to come back in a day or two and take out that package and replace the frames, number one. And number two, if you do this on a cool day or a cooler, there's a cool night coming, if the bees don't release fast enough, they may not cluster around that queen cage that's a few frames over and keep that queen warm. But assuming all of that is on --

**Amy 33:39**

My timer just went off. But I know you're almost done.

**Jamie 33:42**

Assuming that all of that is okay, then that works really well.

**Amy 33:46**

So just a fun fact. When I first started beekeeping, I compared the two, so I got a nuc, and I got a package to install. And I just wanted to compare the two just to see what it would do.

**Jamie 33:58**

I think that's a great idea. So, Amy, what you were doing, I think was great. And I will say one more thing as we kind of wind down this five-minute management, we actually have a document on this topic. And in that document --

**Amy 34:10**

Surprise, surprise.

**Jamie 34:10**

Yep, it talks about installing packages the slow release way, the bump and shake way and that same document also includes instructions on how to install a nuc. With regard to installing packages, it goes into a lot more detail than what I was able to in this five-minute management. So guys, check out that document in the show notes and see if it's of use to ya. It's everybody's favorite game show: Stump the Chump.

**Amy 34:47**

Okay, it's that question and answer time. We've got three questions here, Jamie, and I'm going to do my best to ask them the way that they were sent to us.

**Jamie 34:55**

Alrighty, looking forward to it.

**Amy 34:57**

Awesome. Okay, so the first one, is there anything anyone can do under the hive to impair small hive beetle reproduction? Like can they use landscape fabric or cardboard? These are things that we typically use to cover grass or, you know, any sorts of weeds just to kind of keep them down. But does that help against small hive beetle reproduction?

**Jamie 35:16**

It's funny, Amy. I give, well, my PhD was with small hive beetles, I did a lot of work on them when I was a student. And since then, I gave a lot of talks in my early career on small hive beetles, because they were the thing everybody wanted to know about. These days, people want to hear about something else all together, but almost every time I've given a talk on small hive beetles, a question like this has come up. I've had lots of beekeepers kind of proudly say, well, I keep my bees on these large cement pads. And that's how I control small hive beetles, and they'll tell me about, you know, gravel or weed

cloth or what have you. And then I'll always answer their comment with a story of my own. The lab where I was doing a PhD, my PhD work in South Africa, was on the second floor of the zoology building at Rhodes University. And when I was working with small high beetles, it was necessary for me to rear them. And so when you rear small hive beetles, you grow them on this food, and then when they leave that food, you'll harvest them and put them on soil, but the things that contain the food that I was feeding small hive beetle larvae, were not small hive beetle larvae tight. So I discovered this because I would always get to work early in the morning. And I would go in and I would find, when I got to the floor where I was working, I would find small hive beetle larvae out in the hall of the building, not just the lab where I work, in the hall.

**Amy 36:44**

What floor did you -- what floor were you on?

**Jamie 36:44**

Second floor. So I would follow them, you know, down the hall, down the steps to the first floor, out the first floor building, into, down the steps there and to the ground around the building. And that told me --

**Amy 36:57**

Wait, hold on. So you're saying that your PhD project was watching small hive beetle larvae roll downstairs?

**Jamie 37:06**

Not on purpose. They were, they were escapees that should not have been happening. And I knew at the time that I had a problem. So I had to get to work extra early so I could sweep up all the small hive beetle larvae. And that taught me a couple things. Number one, it taught me that my containers were not beetle larva tight. So I needed to fix that. Number two, it taught me that small hive beetle larvae leave colonies predominantly in the evening and at nighttime. I never had this wandering larva problem during the day. Beetle larvae tend to leave the hives at nighttime, probably because the conditions are favorable, they can escape predators and things like that. But they were leaving at nighttime. And the next thing I learned is that they will crawl great distances at nighttime in search of soil to go into to pupate. So that led me to the conclusion, unless you keep your colonies on a huge cement pad, and by huge I'm just going to say goes 50 yards in every direction, you know, there's a reasonable probability that the larvae are going to be able to cover that distance in a night and get to soil. Maybe I'm over exaggerating a little bit, to turn that yards into meters, maybe I would shrink it and say, you know, if it goes out 20 meters in every direction, you know, that's, that's still 90 plus feet, right? Or 60 plus feet, if it goes out 20 meters in every direction. That's that's a long way. And I just don't know that that's a worthy way of trying to cull small high beetles. So I don't think putting them on a cement pad, I don't think putting, you know, landscape cloth under them is really going to be practical in the grand scheme of things because they can crawl great distances. So what do I feel will be practical? Well, there are some traps that you can put in hives to trap the adult beetles. There's also some traps that go underneath hives to capture some of the wandering larvae as well so those are far more beneficial strategies for controlling small hive beetles than trying to put something under the hive that would limit their ability to go in the soil right under the hive.

**Amy 39:11**

Sure, and really just keeping your colonies strong, right, is what we recommend.

**Jamie 39:16**

We have a whole document, EDIS document on this we'll make sure to link it in the show notes but Amy, your spot on. We've got to keep colonies strong. If you feel you've got a problem, putting in traps to trap out the adult beetles is a really good way to go. There are a couple of chemical options but they're not so great. So the trap options and keeping colony strong, both are really good ways to address those issues.

**Amy 39:35**

Okay, so for a second question, why are the brood cappings darker and non-translucent compared to honey cappings?

**Jamie 39:44**

I've never been asked this question but I do have what I hope is a reasonable answer for it. So bees eat sugar to produce wax. That's one of the, that's one of the uses of eating sugar. The other way or use of eating sugars is their energy source. But as bees take in honey, they're able to secrete wax from special glands underneath their abdomen. That wax that they secrete, when they stack it on top of each other is that white, you know, pure beeswax stuff that we're used to seeing in the honey cells as well as capping the honey cells. But you're right, the brood cappings aren't white. And there's a couple of reasons for this. It -- so brood cappings do start off kind of being produced out of this pure beeswax that bees are secreting underneath their bellies. But it's also, these cappings also contain a lot of recycled wax, specifically recycled wax from the brood chamber. And so these cappings, while including some pure wax, that's white also include a lot of debris and fiber and recycled comb from the brood nest that we know is black. And it's not black because they secrete a black wax, it's black because the more brood that's reared in this, this pure white beeswax, the darker that comb produces, it becomes, it also contains a lot of the silt that bees produce as they're developing. It also contains a lot of debris. So when bees are using the pure beeswax from their bellies, and mixing it with all of this recycled wax, you get this fibrous brown looking wax capping that they use to cover brood cells. And this is probably advantageous to the larvae and pupae developing within because it's permeable and lets the air in as well. So, again, it's because it's being used, it's being produced by a lot of recycled wax, that it has that darker color.

**Amy 41:34**

That's crazy. I had no idea. I just, I've never even considered that, you know, that it was the same wax just, mixed with other stuff.

**Jamie 41:43**

Yeah, I mean, people almost always asked me from the perspective of, why is brood comb black? We know that they have to make it white to begin with because we see that in our honey combs. Well, it's just because, you know, one generation of brood reared in white comb will start the process of turning

that comb brown, and then black and it contains all of these adulterants and this is not adulterants in the negative sense, but it's just things that are there that aren't pure beeswax and all of that stuff is you know, upcycled as it were into cappings that go into brood combs.

**Amy 42:17**

Awesome. Okay, so for our last question for today, this person is going to put packages in drawn comb. So basically a hive that has drawn comb, and, you know, nectar pollen, honey frames. What is the best way to do this? They're wanting to run their hives with one deep and one medium with the queen excluder in it. So, you know, is it safe to do that? Or what is the process of doing that? And then, of course, you know, do they start feeding at that time?

**Jamie 42:46**

Yeah, so a package of bees basically has nothing, right? They just have bees and the queen that comes with them in a separate cage. And so a lot of people will dump packages into hives that just contain frames of foundation. And in that case, the only way to get them to pull the comb is either feed them heavily, or hive them as a package during a time of the year that there's a lot of nectar in the environment. So both of those provide the sugar resource necessary to produce the wax. Now, this questioner say well, I can skirt that, I've got drawn combs, I can hive this package of bees on the drawn combs. And that's even better than putting them on frames of foundation, because the bees don't have to expend energy to draw that comb. And I believe the questioner even mentioned that they've got a couple of frames that contain some honey that they will put on the outer edges of the brood nest. That's great. All of that's great. And in that case, you would hive the package, the same way that you would hive it on frames foundation, you know, that the method is the same, the benefit is that they've already got that drawn comb. So the question is, do I still need to feed them? I would still feed them at least a little bit, maybe a couple of gallons of sugar syrup if you are outside the major nectar flow. If you are hiving this package on this drawn comb at the beginning of, or during the major nectar flow, then you probably have a lot of resources coming in from the outside that the bees can use to start rearing brood and start storing honey in that drawn comb. This questioner also mentioned that they had a super, medium super of honey that they'd like to throw on that colony at the same time they install it but I wouldn't do that. I would wait until the package of bees is grown to fill 80% of the combs and the brood nest before I put all that queen excluder in that medium super full of honey. So I would feed them a little bit before you put on that medium super honey right? You hive them into this box that contains ten drawn frames. I'd feed them a little bit for a couple of weeks, just so they have enough nectar stored before they grow to the size necessary that they would need that medium super of honey but once you put on that medium super of honey, there's no need to feed them because they have all the stored resources that they need.

**Amy 44:54**

So what is the likelihood that this package would accept, you know, all the resources in a drawn comb versus absconding. Is there a high chance of the bees absconding?

**Jamie 45:05**





Yeah, there's a reasonable. So I would argue more times than not, 9.5 times out of 10, they're going to accept this drawn comb and you raise a really interesting point Amy. A lot of the reason that people will feed bees upon installation is just to give them a quick resource and every incentive to stay put. In theory, you can't hive them on drawn comb, or just foundation for that matter, and they abscond. Because whatever cues that they would -- that would cause them to stay are absent. So feeding them in both cases is a good idea. The feeding them for foundation, you need to continue to feed them to get them to draw that out. But I would, that's why one of the reasons I'd like to feed them even when putting them on pulled comb, feed them at least a couple of times. That helps encourage them to stay.

**Amy** 45:53

Alright, well these are really great questions, so keep the questions coming. Don't forget to email us or contact us through our social media pages. We are on Facebook, Instagram, and Twitter. Hey everyone, thanks for listening. Today we'd like to give an extra special thank you to our podcast coordinator Lauren Goldstein and to our audio engineer James Weaver. Without their hard work Two Bees in a Podcast would not be possible.

**Jamie** 46:25

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