

Episode 46 Mixdown PROOFED

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SPEAKERS

Amy, Stump The Chump, Speaker 3, Jamie, Guest

Jamie 00:10

Welcome to Two Bees in a Podcast brought to you by the Honey Bee Research and 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. In this episode of Two Bees in a Podcast, we'll be joined by Kim Flottum, who's the former editor of Bee Culture magazine, but is still getting information out about bees and beekeeping through numerous podcasts that he runs as well as books that he's authoring. We'll use our Five Minute Management to focus on the benefit of starting colonies with packages of bees. And of course, we'll end today's podcast with a segment where we answer questions that are provided by you our listeners. Hello, everyone, and welcome to a another segment of Two Bees in a Podcast. I'm really happy today to be joined with Amy. Of course, Amy is always here as our second bee in the podcast. How you doing, Amy?

Amy 01:30

Great. Thank you.

Jamie 01:33

You're welcome. We have a great guest with us today, Amy, actually. I'm really excited about talking to him. His name is Kim Flottum. And he's the former editor of Bee Culture magazine where he worked for 33 years. He's retired from that now, and he's just kinda having fun as a host of Beekeeping Today podcast with Jeff Ott and Honey Bee Obscura with Jim Tew. He's the author of seven books. And we are fortunate to be joined by Kim because you've got so much knowledge about bees, beekeeping in the US and globally just by virtue of the fact of all the things you've done all over the years.

Amy 02:10

I want to be Kim when I grow up.

Jamie 02:12

A wealth of knowledge.

Guest 02:14

Good morning folks. It's nice to be here.

Jamie 02:17

Man, I was excited that we had you on the list. I was fortunate to be on your podcast or one of your podcasts. I found out this morning that you had that second one, Honey Bee Obscura, but I was fortunate to be on yours -- Beekeeping Today. I had a great time. We'll no doubt talk about all of this stuff coming up. But Kim, what I want to do as we start is I want to introduce our listeners to you, who you are, and the way we always do that with all of our first-time guests is we just ask you to tell us a little bit about yourself. How in the world did you get into honey bees and beekeeping? How did you find yourself the editor of Bee Culture? How did you find yourself in this world of honey bees that we all love and enjoy?

Guest 02:57

Well, Jamie, I tell you, it's kind of a rambling story. I knocked around for a few years after graduating from high school. I eventually ended up going to the University of Wisconsin in Madison. And I had to work my way through school. So the job that I had when I was an undergraduate (horticulture -- that was my degree) the job that I had was working for the University Extension Entomologist who was in charge of small fruit, large fruit trees, ornamentals, and greenhouses.

Jamie 03:27

So everything they could think of.

Guest 03:30

Pretty much. And of course, greenhouse, I was working in the greenhouse. And in summers, we were doing some work out in the field. And we're on an experimental farm, the same experimental farm that the USDA Honey Bee Research Lab in Madison shared with us. So I got to know all of the scientists and technicians and the queen breeders and all the people that worked at the bee lab there, and I got to know them. And we have lunch together and things when I graduated, of course, I lost the job because I was no longer a student. But at the same time that I graduated the Research Leader there, scientist named Eric Erickson kind of got a four-year grant to study soybean pollination. And of course, he knew the pollination part, but he couldn't grow a soybean if you paid him. So he needed somebody that could grow soybeans, and he'd been watching me for four years. And he said, "You looking for a job?" and I said, "Gee, I just graduated. Yes." So he and I put our heads together, and we put together a plan. And at my first day at work he said, "Oh, I didn't tell you. If you're going to have this job, you've got to learn to be a beekeeper." I thought, "Well, I've been watching these guys for four years. How hard can it be?" So he and a technician and I went out and we opened up a beehive. And I looked in and I smelled and I watched and I was overcome and I've never looked back. I still grow things. I'm still a horticulturist. But bees went to the top of the pile and never left.

Jamie 05:02

I think that's like a really similar story for all of us who get introduced to bees for our first time. My story is I kept bees since I was 12 just as a hobby and when I got my first time I was hooked, and then I see where this took you. It's often serendipity. We have a lot of students come through our program who just take a course and beekeeping and boom, they get hooked. And it sounds like that's kind of something that you had going on there. You worked around beekeepers, you saw it, you were interested and you were fortunate to be close to the USDA there and it just all worked out. And you've never looked back. I see everywhere, Kim, your name is always everywhere. No matter where I go people talk about you. So I know that you've got some beekeeping years and knowledge under your belt. How did you end up at Bee Culture?

Guest 05:43

Well, when the grant ran out, I went I moved to Connecticut. And I farmed for a couple of years. And when I was there farming, I got hooked up with a Connecticut Beekeepers Association. And they knew of me from the bee lab from some of the work that we'd had published. And they needed a president. Their president had left and they needed a president. And it's one of those situations where everybody takes a step back, except me. So I became president of the Connecticut Beekeepers and with that job went the position of the Connecticut board member for the Eastern Apicultural Society. So suddenly, I was on the EAS board. At the same time, John Root was running the A.I. Root Company, the bee supply company and the Bee Culture magazine. He also was on the board and I got to know him. And we talked a couple of times. And after about the third meeting or so he said, "I'm looking for an editor and I know you've done some writing. Can you show me some of what you've done?" And I had published some things when I was working at Extension. I published some things when I was doing work with Eric. And when I got to Connecticut, I took over the newsletter and the newsletter of another small group there so I handed him a pile of stuff. He says I'll let you know. Two days later, he called me back and said, "Do you want to move to Medina?" And here I am.

Jamie 07:07

That's crazy. And I know we've got a lot of listeners listening from overseas. Bee Culture is one of our two large flagship periodicals/beekeeping magazines in the country. And Kim, I know by virtue of you working there for 33 years and reading, I don't know, what, 1000s of articles over your time there, you've probably forgotten more about bees and beekeeping than the rest of us have ever known. So that's just amazing. It's an incredible source of knowledge you must be. So you've enjoyed it all that time?

Guest 07:39

I have enjoyed every article, every issue that I put out.

Amy 07:44

He wouldn't tell you anyway,

Jamie 07:46

I'm just curious. Kim I'm going to put you on the spot. What What's your most memorable article after 1000s and 1000s?

Guest 07:53

I got to interview the beekeeper at the White House.

Jamie 07:56

Ah, man! There you go.

Amy 07:57

That is so cool!

Guest 07:59

And I got invited to the White House to do a meeting with him several times, as a matter of fact. So, there's a lot of things in that I've done over the years. But that still stands out as one of the one of the neatest opportunities I've ever had.

Amy 08:15

I think I have some new life goals. Jamie, I'm gonna go visit a beekeeper at the White House.

Jamie 08:21

Well, it just so happens that it's our Inauguration Day in 2021. We try not to date our podcast, but maybe you'll get to go. Who knows?

Amy 08:31

Alright, So Kim, it sounds like your story and your history -- it's just one of those things that was meant to be. The bees were calling you. And I'm sure you have many stories. So I'm wondering what major changes you've seen over the years?

Guest 08:46

Well, in 40 years, almost 40 years since I've gotten involved in this I've watched several things happen. I'm gonna take them not in order of importance or in order of how they occurred but just things that pop to the top of my head. Probably the thing most noticed from the time I started to now has been the influx of new beekeepers. And with that the rapid increase in urban beekeeping. That's certainly been noticeable. I've also watched the evolution of the National Honey Board, which was started just about the same time I did. It is the marketing arm of the honey industry in the US. They been in business for 30-some years and they've really, really improved some of the promotional opportunities that the industry has had. The professionalism and the politics of the national groups has evolved. Long ago and far away it was a group of old guys going to Washington once in a while and now they have lobbyists and they have all of the people taking care of the things that they need to get done. And the picture has gotten bigger in terms of what they're looking at asking for -- the labor issues that they have to resolve and the import issues that they have to resolve. So I've watched that grow. Of course, Varroa. That's probably at the top of the pile. That has changed everything. Varroa, and all of the issues that go with it, has changed how we deal with bees, how we deal with bee problems, the contamination issues with the pesticides that we're using. And then speaking of that, pesticides. The pesticide issues in the US. When I first started, DDT was primarily one of the staples in the industry.

And now that has grown so much. And the chemicals that they're putting out there that are long lived and moderately -- can you say moderately poisonous? Because they don't kill on contact, which might actually be better, but they live on and challenge immune systems. I think the growth of the pollination industry, what is going on in California as we speak today with almonds, has changed everybody and everything in beekeeping in this country. Without a doubt. Even if you don't go to almonds to pollinate, you're affected because the people that you're dealing with, the people that you're buying bees from or selling bees to, are going out there. The equipment that evolved because of trying to make that project easier for the beekeepers and for the almond growers. And I think indoor wintering. The bee lab in Madison when I was there, had spent most of their life studying wintering, the scientists that had been there and they'd kind of figured it out. Kind of. But it comes down to indoor wintering now is just recently beginning to grow in the US in terms of sophistication, technology, technique, size, the number of people doing it. And I see that as a good thing. And actually, I see that as a necessary thing because it only feeds the almond industry. And in fact, almost all of these things affect almond pollination in one way or another and vice versa. Almond pollination affects all these other things.

Amy 12:20

So I have a question about almond pollination. What year did almond pollination become more popular?

Guest 12:26

Well, they've been doing it for 40 years -- as long as they've been almonds out there -- 50 years. But the almond industry put their heads together and became the Almond Board. Then promotion started, then demand started. And I'm gonna say about 20 years ago, it kind of hit the radar, really.

Amy 12:45

Gotcha.

Guest 12:46

Before it was primarily or mostly west coast beekeepers. And then the demand increased to the point where if you've got more than four colonies, it probably pays you to drive out to California with them and pollinate almonds because you're making 200 bucks a colony. But about 20 years ago, and somebody may correct me on that, but plus or minus right in that area.

Jamie 13:10

Kim, I think one of the things that's very insightful about all this stuff that you mentioned is, I agree with you I wasn't around the industry quite long enough to see, for example, the National Honey Board pop up. But all these other things I've also been able to witness. And I'll tell you, you travel internationally, I know you've gone to lots and lots of meetings, you've spoken all over the world when you were at Bee Culture, you would have read articles from all around the world, edited articles from international authors. All these things that you just mentioned -- influx of new beekeepers, beekeeping in politics, Varroa pesticide issues growth. Did you see similar things happening internationally? Would you argue that what we've seen in the US over the last three or four decades are all similar issues to what our international beekeeper friends have been facing?

Guest 14:03

Yeah, to one degree or another each of those has affected beekeeping globally, in some countries more than others. But the one thing that I see in lots of countries that I don't see much here is that the governments have finally witnessed the fact that I can teach people in my country to keep bees. I can give them equipment. They don't need to own land to be beekeepers, and we can increase our export market. We can grow honey without a lot of input. We can teach our people to keep bees without a lot of input and the product that they're producing, we can sell to the world actually, but the United States mostly.

Jamie 14:46

I'm also fortunate to travel a lot like you and I see the same thing that you mentioned. Another thing that I see internationally is just the the care that a lot of international beekeepers put into it. It's very much a craft, beekeeping, is to them -- an art. I know this is an overgeneralization. But sometimes in my daily job it feels like a job and less like that kind of mysticism that I had around beekeeping. It's just fantastic and it's a lot of work but I go overseas and I'm often recharged because I see people planting beautiful gardens for their bees, and they care about how their hives look and all of that is exciting to me. All that stuff you mentioned -- influx of beekeepers, growth of pollination industry, Varroa -- we can argue that a lot of these are today's big issues, but what are some trends that you see happening now? What are some things that we, as a beekeeping community, in the US, but globally, what do we need to address to make beekeeping more sustainable?

Guest 15:43

The biggest, I'm gonna say problem, and that's not quite the right word, the biggest issue that beekeepers in this country are faced with is what I just mentioned in terms of the increase in beekeepers in the rest of the world. What that has done is, for lots of reasons, and using lots of techniques, the price of imported honey in this country has dropped significantly to the point where a commercial beekeeper can't really compete on price. I can buy \$.80 per pound honey from India, and I'm going to buy it from the US at \$2.50 per pound. And you can see that given the choice, where am I going to go? The issues with the stuff that I'm getting from other countries, sometimes, is adulteration or contamination. But, even taking those off the table, it's price. US commercial beekeepers are looking at this and scratching their heads, trying to figure out what they're going to do. The influx of new beekeepers has increased the demand for bees. The increase in the pollination industry has increased the demand for bees. And the results of Varroa, with the average 30% to 40% loss per year for most beekeepers, has increased the demand for bees. Commercial beekeepers are looking at this and going, "You know, maybe I'm spending time making honey where I should be making bees." I'm seeing that change even as we speak. Where is the best place to put my energy? Where is the most profitable place to invest my money? I'm seeing a change to producing more bees. Honey is a product anyway. The commercial beekeepers will tell you that honey should be about the same prices as diesel fuel. And if it falls below that I can't compete. So, a lot of beekeepers are looking at that increase in demand for bees and saying "I'm going to produce more bees and less honey."

Jamie 18:02

It's crazy that you say that because that's exactly what I tell people. Everybody said if you get into commercial beekeeping, what would you do? I always tell people I'd make bees. Those are the guys

and the girls who are making a lot of money at the moment because there's a huge demand for bees. It's hard to compete with honey production. Pollination requires a lot of movement but making and selling bees -- there seems to be a huge market. Some of the people who are doing best in the beekeeping industry, even today, are those individuals who are investing heavily in the production of bees. It's interesting that you see a similar trend.

Amy 18:35

Something that we talk about pretty frequently is breeding queens and the different varieties of queens out there. That's always fun to look at. I'm hoping to see that may happen in the future -- more queen breeders out there. We'll see where that takes us. Kim, where do you see things headed in the future?

Guest 19:01

If honey prices don't change the pollination industry is going to continue to be strong. There's no doubt about that. The almond growers are planting acres and acres of new trees every year. So that's going to remain strong. And I see even today, people are beginning to look at how many colonies per acre do we need in almonds? Do we need two? Can we get away with one really, really strong one? Can we do better with three weaker ones? That's being sorted out. And that's going to spill over into apples and cranberries and blueberries and all the other crops that are commercially pollinated, I think. The other one is technology. I've seen more growth in technology in beekeeping in the last five years than I did the first 35 I was in the business. Of course, that makes sense in that the skills of people who develop technology have increased. Hive monitoring, the management of bees, the management of your people, the management of your trucks and all of these things, you can do on your cell phone. And, that is not going to change. It's only going to get more productive, I think. That in and of itself is being driven by labor, the shortage of labor, the cost of labor. And then the problem of, I don't have people in the field so I have to be able to know what's going on in that bee yard two states away. So, I look on my phone and Bingo! There it is. They're gaining weight and there's some flow on. I'm going to need to get a crew out there pretty quick to harvest some of the stuff. Even for the backyard beekeeper -- I've had stuff, I don't have it anymore, but I had things on some beehives here where I could sit right where I'm sitting at this moment, I'm looking at the hive window, my desk is in front of a window. I can see the hive, I can click on my computer, and I can tell you what's going on inside of that box. Sitting here in the comfort of my home on a 20 degree winter day in northeast Ohio. I think the technology thing is going to grow. And I think honey producers are changing to bee producers. And we're still all going to wrestle with Varroa.

Amy 21:41

I love this conversation, because I feel like we're touching on so many different aspects of the beekeeping industry. Now my brain kind of hurts because I'm just thinking about all these different factors that we need to consider. And I guess the bees are going virtual, just like we are due to COVID.

Jamie 22:00

Kim, I think this is a great testament, though, to your time in the industry and your knowledge. I agree wholeheartedly with you. Just a couple of things on your points there. I've always felt like our industry was ready for technology. So much of the rest of the agricultural groups are moving forward and we're still left behind. I think, Kim, and I'm curious about your thoughts on this, I think there's a lot of

opportunity in technology. Because usually when I go to meetings, and everybody's trying to sell me on their technology, basically what they're saying is, "My machine will weigh your colony and tell you what the temperature is on the inside." I really feel like we got to get past that. So I think there's a lot of opportunity for innovation and technology in the beekeeping world. What do you think about that? What I've seen is just very basic stuff that everybody seems to be measuring the same stuff.

Guest 22:54

Yeah, it's evolving as the capabilities of existing technology evolves. You mentioned weight and temperature, and humidity. Some of the people now are recording song and they're beginning to interpret sounds. Jerry Broman Shank was working on listening to bees in the colony, and finding out that he can actually tell you what's going on in the colony by the sounds that he's hearing. He can tell you that the bees in Montana, where he is, that are doing something are going to sound a little bit different than the bees in Ireland that are doing the same thing. So, there's a, what do you want to call it-- a language?

Jamie 23:35

A regional dialect? Separated by a common language.

Guest 23:41

So, that's another step up. All of these things are going to get easier, cheaper, and better. And the new stuff is coming along. I'm excited to watch it. I gotta tell you, I am the least technology literate person you probably know. So watching is fun. Doing it, maybe not.

Jamie 24:07

I also get excited about it. But I'm really hoping to be knocked off my rocker the next time I see you. When I go overseas, I see so many people, hundreds of new scientists, students, etc, starting to show what's capable with infrared technology or remote sensing technology or chain of custody technology. I'm also excited. And Kim, I think that leads perfectly into my next question. Given everything you've said, and I already think I know one of your answers, what most excites you about the industry now and where things are headed?

Guest 24:44

The improvement of technology certainly is one of them. I don't know if it's top of the list, but it's certainly near the top of the list. I think what excites me more is that the industry as a whole has finally stepped up said we can't rely on the government, or somebody outside our industry to take care of us. We're going to have to do it ourselves. And that's led to industry-driven education and improvement programs -- the Honey Bee Health Coalition and the BIP program. The regional groups -- the EAS and HAS and WAS -- have certainly changed the way that we are learning about bees and beekeeping and where the funding for producing that information has come from. Then there's the evolution of the universities. You're a good example of that -- the BMD program that you're involved in. That's university led. Then there's the Bee Squad from the people up in Minnesota. The industry is saying, we can't rely and we don't want to rely on government and hope that it doesn't change too much every four years. We're going to take this into our own hands. We're going to take care of ourselves. And that, to me, that's exciting because it's shaken off that dependence that this industry had for a lot of years on

going to Washington and hoping they could get something. Now they're doing it themselves and paying for it themselves and making it work and improve for themselves.

Jamie 26:16

I think that's actually the American way, right? Those who hope in government hope in vain. I like this idea that we can go on and pull ourselves up from our bootstraps. And one of the things, Kim, I think I'll say to add to that really great series of statements you've made is I feel like there's still room for more cohesiveness and camaraderie in our industry. I feel like, in my opinion, as bee scientists, beekeepers, the industry, etc., we have the knowledge, the resources and the ability to solve our own problems. Now we just have to have the desire to work together to make it happen. And I'm confident we can make it happen. It just has to happen. So it's cool to hear that you've got a similar vision.

Guest 27:02

The desire and the need are the two things that are driving this.

Amy 27:09

Now that you're retired, what legacy do you want to leave in the industry?

Guest 27:17

To tell people about all the things that we've just talked about was probably the best thing I got to do. I'm not gonna say a legacy. What I leave behind is sitting on people's shelves ready to reference. It wasn't anything I did. It's the things that people wrote, the research people did, all of those things that we got to take and make available to the rest of the world. So that's good enough for me.

Amy 27:45

I would say you've probably accomplished that. Congratulations.

Guest 27:49

Thank you.

Jamie 27:51

Kim, I feel like we're winding down here, but I don't really want it to stop because there's just so many ways I want to tap your brain about all the stuff that you've seen and heard over the years. And I think "Kim for Beekeeping President!" Maybe we should start a new campaign and try to get you elected to whatever the beekeeping president office would be. Do you want leave beekeepers with any hope for the future? Any positive words? Is there anything you want to share for our listeners all over the world to inspire us to keep beekeeping, just to remember what makes us happy? Anything?

Guest 28:29

You know what, Jamie and Amy? What the three of us are doing here is being done all over the world. We are taking what we know, what we've done, what we've seen, what we've learned, and the technology is improving, and the ability to do this is improving. What we have learned and what we know we are now able to share. And I don't think it gets any better than that, do you?

Jamie 28:54

I do. I agree completely.

Amy 28:56

We have the best jobs in the world. That's what I think.

Jamie 29:00

Kim, the whole time you were talking I was thinking to myself, the future is bright. When I go to meetings and see these new scientists, these new vibrant young beekeepers, when I hear all the changes you've talked about, the optimism in your voice. It's easy to get pessimistic when we talk about bees and beekeeping and colony losses and honey prices. Would you agree that the future is bright?

Guest 29:23

The future is bright and if I didn't think it was I wouldn't be sitting here today talking about it. I want it to be bright, obviously. But all I want to be able to do is help it be brighter. And when I look at what's going on in the almond orchards and in queen production yards and in all of the honey processing plants in the world, everything seems to be getting at least a little better, and some things a lot better. And if people take a minute to stop, stand up and take a look around and say it is better than it was 10 years, 20 years 30 years ago. So let's keep doing what we're doing.

Jamie 30:08

Kim, I can tell you with absolute certainty what you've done over your career has made the beekeeping industry better, and the future is brighter because of you. So I thank you 1000 times over for joining us on this podcast. It's been our absolute pleasure to host you.

Guest 30:23

Can I put a plug in here at the very end?

Jamie 30:26

Please do.

Amy 30:27

Of course.

Guest 30:28

You mentioned the podcasts that I'm involved in. We have three -- we've got Beekeeping Today, and we've got Honey Bee Obscura and then there's Two Million Blossoms with Kirsten Traynor. The three of those I'm involved in and they are doing the same or similar things that we're doing right here. We're able to share information from people who have it to the people who want and need it. Tuning into one of those podcasts is just one more thing you can do some afternoon when life is slow and you got nothing better to do. We have a lot of fun doing them and I think you'll enjoy them.

Jamie 31:05

Kim, well said. Thank you so much for joining us on the segment of Two Bees in a Podcast.

Guest 31:10

Well it's nice being here. Thanks for the invitation.

Jamie 31:12

Absolutely. Everybody, that was Kim Flottum, former editor of Bee Culture where he was for 33 years, now involved with three podcasts, host of Beekeeping Today podcast with Jeff Ott, host of Honey Bee Obscura with Jim Tew, co-host of Two Million Blossoms with Kirsten Traynor, and author of seven books for beginners to commercial beekeepers, hundreds of articles of beekeeping. A wealth of beekeeping knowledge. We will make sure and have all of these things linked in the show notes for this episode.

Speaker 3 31:47

For more information about this podcast, check out our website at UFhoneybee.com.

Amy 32:00

It is Five Minute Management time. Jamie, I'm not gonna start the timer yet, but --

Jamie 32:07

I don't believe you. It's probably already started.

Amy 32:09

It's not started yet. However, I did want to preface by saying that when I first started bees six or seven years ago, my friends and I were trying to figure out whether to get a package or a nuc. And so we ended up getting one of each because we just wanted to experiment and see what happens.

Jamie 32:27

What did you decide?

Amy 32:29

We got one of each.

Jamie 32:30

Yeah, but what did you tell? Which was the better way to start?

Amy 32:32

Well, for us, the nuc was stronger. It was already established. But it was fun taking the package and just dumping it into the colony. That was kind of fun, too.

Jamie 32:43

Let's talk about it. That's coming up, right?

Amy 32:45

We have five minutes, and I'm starting the timer now. Our topic for today is the benefits of starting with a package of bees.

Jamie 32:55

Yes, so push the start button now. You've got to remember we've got an international audience. And I will say that generally speaking packages of bees tends to be an American thing. There's a few other countries where they buy and sell packages of bees, but it's just very routine here in the US. So for everybody listening, a package of bees is what it sounds like. It's a little cage that's got screen wire, usually on either side. Some of them are made of plastic today, and it ships with bees in it. And in the US you can buy them, with two or three pounds of bees in those packages -- that's a few kilograms. The packages come usually with some sort of feeder container. It's got sugar syrup, or corn syrup to provide food for the bees. And there's usually separately a queen in a queen cage hanging in that package. There are some pros to starting with packages. Packages tend to be a little bit cheaper than starting with an established colony of any type, be it a nuc or a full size colony. Another benefit of packages is that, and some people will see this as a negative but I see it as a potential benefit, is it doesn't come with comb, pollen, honey, brood, etc. People are like, "Why is that a benefit? They're essentially coming with nothing?" Well, it's a potential benefit because along with wax, brood, pollen, and honey, you get diseases and pests. It certainly helps minimize the chances that you're introducing bad things into your brand new colony. But on the other hand, as I mentioned, it could be a downside as well because they don't have that so you've got to take care of that package until they are able to produce it. Another benefit of packages is that you can buy them queenless. You can purchase them simply for the purpose of strengthening your existing colony so you don't have to have a queen in that package. In fact, that's a benefit because you might want to buy the bees from one company but you might want to purchase the queens from another, in which case once you get both the packages and the queen you can combine them into hives that you have on site. These are some of the benefits of packaging. I mentioned a little earlier that they tend to be a little cheaper. That's probably the primary benefit associated with purchasing packages over nucs. I guess another benefit that's worth considering is that they will come to you in the mail, if you're only buying a couple of them. Why is that a benefit? Well, if you're a hobbyist or a sideline beekeeper, and you purchase this brand new colony in a package, it will be shipped to you. And you don't have to go anywhere -- it'll literally come to you or go all the way to your post office and you can go to your post office and pick it up. That's only true, though, if you're purchasing a few packages, maybe up to 10. Usually, if you're purchasing packages in volume of 50, 100 or more, you're going to have to go to the package supplier and pick them up. But if you only want a couple, it can be a benefit. And I would say every beekeeper should purchase and install a package at least at some point in his or her beekeeping career. It's a great experience. It's fun to do. And I always recommend trying it at least once if it's not the way that you ordinarily acquire bees.

Amy 36:08

Is that it? You had a minute and 36 seconds left.

Jamie 36:13

I knew it was gonna be short, but I knew I could do it.

Amy 36:17

That's fair.

Stump The Chump 36:22

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

Amy 36:35

Alright, it's question and answer time. I've got three questions for you, Jamie.

Jamie 36:39

Okie dokie.

Amy 36:42

The first question is, can queen excluder be used if it's rusted? And how can the rust be removed safely?

Jamie 36:49

I really appreciate that question. Honestly, that's the first time in my whole life I've ever been asked that question. You should get a star just for asking that question, whoever you are. But it is an interesting question because I use metal queen excluders, even metal bound queen excluders, and of course they rust over time. It does make sense to ask as bees go back and forth through metal queen excluders that have rusted, "Is there potential for damage to the bees? Perhaps the rusty, jagged areas can scrape or cut the bees wings?" I've had people make comments like that about damaged areas of a queen excluder. I'm going to tell you what I do, and then I'm going to answer your question. What I do is ignore it altogether. I've never de-rusted a queen excluder and I don't believe that I've ever had a reason to believe, at least, that my bees were suffering going through a rusty queen excluder. However, the motivation behind the question does raise an interesting point. If there is potential damage, why not try to address it? And so, if I were to clean my queen excluders, I would do it with a wire brush. I would take off those metal excluders. I'd rub them down heavily with a wire brush. I would run it down with a wire brush to try to remove all the rust and then I would, with a moist paper towel or something like that, remove the dust on the queen excluder and feel very comfortable replacing that excluder back on the colony. If the excluder is rusted beyond repair, if it's significantly damaged, I would just throw the thing away and buy a new one. I have never had to do that. I've had some rust on my excluders, but I've never even addressed it. I've always just left in on my colonies. But if it were really, really bad, I would either clean it with a stiff wire brush, or I would throw it away altogether and replace it.

Amy 38:55

That's fair. Second question. Do queens lay different size eggs in different cell types?

Jamie 39:02

That's a good question as well. And for the benefit of the listeners, especially the individual who asked this question, sometimes we'll take your questions and kind of boil it down to its essence. Many of you give us these longer questions or things that we want to boil down to its essential essence, as it were. This particular question, "Do queens lay different size eggs in different cell types?" is really born out of a longer question where there appears to be a little bit of confusion over what types of eggs are put into

different cells and the size of the eggs, etc. And it may be borne out of the idea that earlier on in some earlier podcast, I've talked about strategies I use when I'm allowing colonies to requeen themselves. I've made comments like, well, if you're going to allow a colony to requeen itself, you need to leave the largest queen cell or the two largest queen cells because that's an indication that the bees tended those cells better. Maybe they fed those larvae better and they got larger over time. And it's a generalization, but in general, the larger the cell, the better that bee was tended, the bigger the queen the better queen, right? I think that there was maybe some confusion in there. Let me set the record straight. Queens lay the same size of egg in all different cells. Worker eggs and queen eggs are not really worker eggs or queen eggs at all, they're female eggs. So they'll put a female egg in a worker-sized cell and the bees will make a worker out of that resulting offspring. They will put a female egg in a queen cup or swarm cell and the workers will make a queen out of that female egg. In both cases, the egg that was laid in a worker cell and the egg that was laid in a queen cell, the eggs are exactly the same size. They do not differ. In fact, drone eggs, eggs from which drones originate, they are unfertilized, but they are the same size as female eggs. Male and female eggs are the same size. The eggs laid in worker cells and the eggs laid in queen cells are the same size. There are no differences in the sizes of eggs put in the cells. But the size of the cell will dictate the fate of that egg. For example, if that egg is placed in a worker cell, the female larva that emerges from it will be treated like a worker. She'll be fed a diet as she develops that pushes her in the direction of becoming a worker. And the same is true for a queen. If that female egg is put in a larger cell that's ultimately a queen cup or supersedure cell or what have you, then the bees will tend that developing female in a way that pushes her toward becoming a queen. It's not that there are different sizes of eggs. All honey bee eggs are the same size. It's just that they're deposited in different size cells, which then dictates their fate. Amy, you think I did a good job with that question based on the background that you have with that question?

Amy 42:07

I do. I had another question, though, about the cell size? What is the cell size difference? Do you know? Is there a number to that? Because I know that there's drone foundation that we use. So what is the size difference?

Jamie 42:26

You're catching me here on the spot. I haven't looked it up recently. But worker cells, and I'm going to give an overgeneralization. It's pretty easy to find the exact sizes of these cells. Worker cells are about, let's just use the worker cell as the basis. Let's say it's the normal cell. The drone cell is about 50% wider than a worker cell. And they tend to be longer as well because drones are bigger than workers. It's about 50% percent wider, and maybe 20% longer. Queen cells are all together different. They are probably time and a half as long as a worker cell. They are oriented vertically rather than horizontally. And they're probably a time and a half to two times larger in diameter than that of a worker cell. But maybe if you asked me this next Q&A, I can have the exact dimensions of these different cell types. Generally speaking, a drone cell is about a time and a half or so bigger than a worker cell, and the queen cells may be slightly larger still.

Amy 43:27

That's fair. I'll hold you to it for the next Q&A.

Jamie 43:29

I'll be eagerly reading all about cell sizes until then.

Amy 43:35

For the third question: If you are able to capture a swarm that happens before the honey flow, is it possible to return some of the workers back to the parent hive?

Jamie 43:45

Yes, it is possible. That's the short answer. I would even argue that it's desirable. In fact, what I try to do is stop swarms from happening in the first place. And if they do swarm right before the major nectar flow, which is what this questioner noted, I want those bees to go back into the hive, because I want that colony to have its maximum size heading into the honey flow to make as much money as possible. So what do you do when you fail to control swarming in a particular colony, but you are able to capture that swarm? Let me tell you a few things that are important to hear. Number one, if you take that swarm, queen and all, and put it back in its parental hive, they're going to try to swarm again later the same day, or tomorrow, or the next day. I've discovered over my three decades of keeping bees that once a colony has tried to swarm with a particular queen, they will continue trying to swarm with that particular queen. So let's imagine a scenario that you put that swarm back into that hive. They're going to try again tomorrow. Let's say you're lucky enough for them to light two days in a row in an area that you can easily capture them and you're like, "Well, I'm going to put them back in their colony a second time because surely they won't swarm again." They're going to swarm again, and again, and again, and again. And in my experience, once the bees determined that they are unable to swarm successfully with a particular queen, that queen will disappear altogether. And the bees will end up trying to swarm with the first virgin queen that emerges.

Amy 45:21

What do you mean disappear altogether? She just vanishes?

Jamie 45:26

I've never read about this in the literature. So my working hypothesis is the bees have collectively determined that this queen is unable to swarm, even if she can fly to the cluster with him. And my guess is they actually do away with her. Or the swarm process is delayed such that the first virgin queen to emerge fights with her and she's killed. And since the bees have swarming on the mind, they'll swarm with that first virgin queen, and allow the second virgin queen to be the one who takes over the nest.

Amy 46:05

Do you feel like the workers feel like they're living a nightmare? Like they're transporting? They think that they're getting somewhere, then suddenly they wake up and they're back in their home again?

Jamie 46:16

In my opinion, what they are believing is that they have a failed swarm and they're blaming the queen for it. Either they do away with her or the first virgin queen to emerge does away with her. But since they're still in swarm mode, they will swarm with that first virgin queen. And so to make a long story

short, once a colony has tried to swarm it is going to continue to try to swarm. That's just the way it is. It's going to continue. The questioner's question was, "Can you put the swarm back or some of the workers back?" You can and my argument is you should if it's right before major nectar flow. So, given that you should, and given that they're going to try to swarm instantly with them, what should you do? Here's a little trick that I use. When a colony has tried to swarm and I capture that swarm, I look for the queen in that swarm. And if I find her I cage her. Then I go to the next colony and find its queen and cage her. I will put that swarm that I just captured back into its original colony. And I will take its queen and swap places with the queen from the other colony. Basically, I requeen both colonies with the queen from the other colony. And I've always found that pushes the reset button with that colony trying to swarm. So again, I'll go into that swarm, capture its queen, and use it to requeen the neighboring colony and use the neighboring colony's queen to requeen the colony trying to swarm. Of course, you have to go into the colony trying to swarm and remove all of the queen cells from it. Otherwise, they may try to swarm with your caged queen sitting in the cage. So basically, I push the reset button. And that almost always works for me. Does that make sense, Amy?

Amy 48:11

Makes sense. Beekeeping is so much fun.

Jamie 48:13

It is fun. It's always fun to try to figure out ways to get around that basic biological instinct of the bees.

Amy 48:19

It's so much work. And it's just so fun and so fun to talk about. So thank you for that. All right, so those are questions and answers for this segment. Again, if you would like to ask questions to us, feel free to email us at honeybee@ifas.ufl.edu. Or you can comment or send us a message on any of our social media pages on Facebook, Instagram, or Twitter. We are active there and hopefully, we'll be able to answer your question soon. Thank you. 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 49:09

For more information and additional resources for today's episode, don't forget to visit the UF/IFAS Honey Bee Research Extension Laboratory's website ufhoneybee.com Do you have questions you want answered on air? If so, email them to honeybee@ifas.ufl.edu or message us on Twitter, Instagram or Facebook @UFhoneybeelab. While there don't forget to follow us. Thank you for listening to Two Bees in a Podcast!