



EPISODE 195 TRANSCRIPT

Jamie

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

Hello, everyone. Welcome to another episode of Two Bees in a Podcast. Today we are joined by Cliff Struhl, who's President and CEO of BeeSmart Designs. He has a really interesting background in keeping bees and then thinking about how to monetize beekeeping beyond just bees and honey. So it's really exciting to have you on the podcast today, Cliff. Thanks for joining us.

Cliff Struhl

Thanks for having me. I appreciate you giving me the opportunity to talk about monetizing beekeeping outside of honey and bees and pollination.

Jamie

I tell you Cliff, one of the things that excites me most is before we came on the air, we always talk to our guests, and you had said that you have listened to every episode of the podcast. You might be the first guest we've had that said that. I'm not sure but thank you Cliff for being such a faithful listener.

Cliff Struhl

Does that make me a glutton for punishment?

Jamie

I guess so. Well, Cliff, we always ask our new guest the same question. So, if you've listened to every episode, you probably know this, but our listeners just want to know about you. How did you get into beekeeping? We'll start there before we get into the meat of the questions.

Cliff Struhl

Okay, well it's really, I'll give you a 2-prong intro because one is my background and the second is how I got into beekeeping. I have a biology background. I did ecology research on mosquitoes, so now it makes me fairly familiar with stinging insects. I dealt with mosquitoes and now honey bees, so stinging is not new to me. I also went to Carnegie Mellon for a graduate degree in

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industrial administration, so I have a pretty secure business background and lots of numbers. After business school, I went into the family business, and we're manufacturers of sign and display products that we sell nationwide. And then I've been able to learn about production, plastics, business management, sales, marketing, etc. through that. And I've been able to put that into the BeeSmart business.

With regard to beekeeping, a friend of mine moved into a new home, thought they had honey bees, called me up and said, hey, you interested in doing bees? We're new in the house, but we don't want to deal with it. But I know you're into lots of things. And I said, let me think about it, and went online, found a local beekeeper, called him up, and I said to him, I said, do you do bees? He goes, yeah, why? I said, well, someone has bees, and I'm interested in learning about it. He says, come on out. So, my daughter and I drove out east on Long Island, met a guy named Ernie. He spent two hours with us, showed us what was involved. I said, this is pretty cool. He said, well, if you're going to do beekeeping, you've got to take a sting to see what the results are. He said, do you have any injuries or parts that hurt? I said, yeah, my hamstring, and he stung me there. I went home, called my friend up, said, I'm going to do the bees. He said, bad news, our exterminator, who's a beekeeper, was just here and said it's not honey bees. I go, damn. So a few days later, I called this guy Ernie back up and said I still want to do the bees. He said, sure, no problem, come back out. I'll tell you what to buy, I'll sell you the bees, and then you'll take a class with a friend of mine. And that's how I got started in beekeeping.

Amy

That's so fun. How was your first sting? Tell us about that experience.

Cliff Struhl

It wasn't what I expected. It was definitely more shocking than a mosquito bite, but it didn't hurt that bad, and it didn't resolve my hamstring issue either.

Amy

Sorry to hear that. All right, so we're talking about monetizing beekeeping beyond bees, beyond honey, beyond pollination. Was it always your goal to make beekeeping a business? I know you just told us your story of how you got into beekeeping, but as soon as you kind of got into and introduced to the beekeeping world, did you say, how am I immediately, how am I going to make money? How am I going to turn this into a business?

Cliff Struhl

Simple. Absolutely not. I have lots of hobbies. I enjoy doing them. I like understanding what's involved in doing them. As a scientist by training, I liked all the science behind the beekeeping.

I liked all the genetic stuff. I have a nice little advantage. My brother is a world-famous geneticist, so he was able to help me understand all the bee biology, which is somewhat complicated as everybody knows. So, I have no desire to ever monetize the beekeeping. It just happened.

Jamie

Well, consistent with that though, Cliff, did you at least want to be monetarily neutral? I mean, even, you know beekeeping, like many hobbies, is an expensive hobby, right? So did you at least want to break even?

Cliff Struhl

No. I have lots of hobbies and I've got to tell you, honestly, beekeeping is probably one of the cheapest of them.

Jamie

Oh, okay.

Cliff Struhl

I do stone carving, and I have a studio at home, and I work in Vermont, and I work large, literally in tons of marble at a time.

Jamie

Oh my God.

Cliff Struhl

That investment is a lot, lot larger than anything related to bees.

Jamie

Well, I kind of know now what the answer to the next question is going to be. Well, at least when you had bees, you were surely making products like honey. Did you try to not break even then, or even make money, but did you at least sell hive products when you jumped in?

Cliff Struhl

No, I got in. I had two hives. I got honey. I basically did what most beginners do. I kept my honey. I gave it to friends. It was just a fun thing to do, interesting conversation, and it was just something I thought was fun to do and it was interesting, so I didn't need to make money at it. I know that's not exactly what people want to hear, but it's the way it was. And to this date, my beekeeping itself, although I generate a lot of honey, I don't sell it. I don't make money on my personal beekeeping. I actually donate most of my surplus honey to a food bank.

Amy

So, Cliff, I'd love to hear how you got into a beekeeping business and the story behind that transition between working bees, having bees, doing it as a hobby to the aha moment of this is what I'm going to do. I think that's an important piece of that part of what we're interviewing you about. So tell us about that.

Cliff Struhl

Okay, first, I don't think there was an aha moment. It was a transitional thing. So, I had the bees in my yard. I have two acres on the North Shore of Long Island, so I have a nice yard. My then wife was a Cornell Master gardener, and we have beautiful garden beds. And as you can imagine, a Cornell gardener is not going to allow you to use cinder blocks and two by fours to put your hives on. Doesn't fit with the deal. So, I reached out to one of my suppliers for my sign business and I asked him, could he cobble together something for me out of some products that I've seen in his building. And he made me two hive stands out of industrial vacuum bases that are huge cylindrical bases, and he made a platform top for it in a color that was acceptable to my wife. And I put those in the yard, and they look nice, and people who came and saw them said, wow, those are really nice stands. It just sat there for the first year or so. I make sidewalk signs as my core business, and I had one product, I said to my molder, I said, can we cut one of these apart and make a hive stand out of it using the same design patents that I already owned? And he said sure. And over about a month, we cobbled a hive stand together. I tested it in my driveway with 400 lbs of cinder blocks on top of it. Then I thought, hey, this is pretty cool. And then I designed the hive stand based on this other product and then tried to figure out what it would take to make it, how much it would cost to make, how could I market this? And I went down this whole process of design concept, cost benefit, if I can make money, and came out that it wasn't a huge investment to build 1 tool. So, I took the flyer and then I built the hive stand and I got very lucky.

After we did the first few pieces, EAS was coming up in Rhode Island. This was about 14 years ago. I took a booth, and I went to Rhode Island. I had no idea how the beekeeping industry worked. I had an idea who the players were, and I got very lucky at that time. I showed the product and Dadant, Mann Lake, Brushy, and Kelly took the product on.

Amy

Wow, Cliff, I think that's such a cool story. We were talking again behind the scenes before we started pushing record today, and one of the things that we had brought up was how difficult it is to be in the beekeeping industry. And not just that, but when you go to a show, sometimes you'll see new vendors there. I think you said, you'll kind of go back and check every year, every other year, but sometimes some of those vendors don't make it, right? So, I think it's really important to note that that this is a very difficult endeavor to start making money in beekeeping. Also, you didn't make money in beekeeping, necessarily. You kind of pivoted to making equipment and you



kind of found, I guess you found a gap where there was a need, but you had the experience beforehand. So can you elaborate just a little bit more on how maybe some of your past experiences kind of molded you to be successful in this aspect?

Cliff Struhl

Sure. I like the word molded there because basically everything we do is mold products in plastic. So, my main business -- I'm a manufacturing company that manufactures outdoor side products in plastic. So, over the years I've become very good or adept at designing things in plastic and I understand most of the molding challenges because when I started in business, our tool maker took me under his wing to teach me tool and dime making. So, I can look at a product, come up with a concept and understand what it actually takes to make the tooling to make the product and could design around the technology needed to make it. With regard to that, first EAS show, my core business, we do not sell direct to end users. We only sell through dealers. So, when I went into beekeeping, I said I don't really want to deal with customers. I don't have the staff, I don't have the ability to train them enough, and I really don't want to deal with the end user. Let the catalogues and the other people who can do education deal with the customers. We'll just supply them with nice new innovative products. When I went to that EAS show, as you can imagine, trying to get into four of the largest catalogues day one where they don't even know you exist, took a little bit of cleverness and I made them a deal they couldn't refuse. I know that sounds kind of mafiosa, but it's what happened. As you can imagine, no one really wanted to take on a new product and stock it and take the risk of having it and then it not selling. Because remember when I came up with my first product, which was the hive stand, it was an \$80.00 hive stand, and many people told me no one's going to buy it, no one's going to buy it, it's too expensive. Beekeepers are cheap. And I said we'll see. There are plenty of beekeepers that want better looking equipment like my ex-wife did and they're willing to pay for something because it's a hobby and you spend money on hobbies. So, what I offered to all the catalogues was a no risk start. You can buy stock, bring it in inventory. If you don't sell it, I will take it back in six months, full credit. If you don't want that option, we'll just ship for you every day. You send us the orders; we'll drop ship directly to your customer under your name and label same day. You never see it, you never touch it, you just make some money out of it. I guess it was a deal that was too good, and they all took it. So, that's how I got started to get into the catalogues and it took a little while for the product to build up. When you go into a new product, it's never a success overnight. It takes a long time for people to discover the product, understand the product, and verify if it's a real product or if it will offer them any benefits that will help them. The hive stand took a number of years before it started to build some recognition.

At that time, I also did magazine ads, and 15 years ago or 14 years ago, magazines were a bigger issue with beekeeping. The subscription rates were much higher. People read them more. It's become more difficult because subscriptions are down, and people are now using social media for information. So, I think it's a little more difficult to get a new product out there. But we



managed to get into the catalogues, and it was a great start. Once that was established, a friend of mine came to me and said you should really make a cover. If you can do this in plastic, you should be able to make a cover that's better than the covers that are out there that don't last. And I went into the next venture of working with a designer engineer that we use for my other business, and we cobbled together a cover, but we tried to do it a little differently. I don't want to do wood and metal because that's what everybody else does. And a lot of those products are kind of a race to the bottom when it comes to pricing because everybody undercuts each other. So, we decided to come up with a different approach to the product and it ended up being a double wall cover that has insulation properties. It's self-venting. I think back in the day when Jamie wrote an article, I think he may have mentioned that some people put pennies or nickels or popsicle sticks between the cover and the inner cover for a little ventilation. So, we designed that into the product. I listen to what's out there. I try to follow the science and come up with clever products that are different than the run-of-the-mill products.

Amy

So, Cliff, there's so much to unpack with what you just said. I mean, I think the first thing that you were talking about was that you decided you weren't going to work directly with clients, right? You wanted to sell wholesale. That was an idea that you had. You knew that you wanted to sell to manufacturers or to dealers who were going to be able to help you sell this. I think that that was part of your business plan, right? So, then the question I wanted to ask you was, did you have a business plan in place? You had an idea, you gave these companies different options and you made it as easy as possible for them, right? I heard all of that when you were talking about how you were able to negotiate so that there was very low risk. But I'm wondering what your marketing plan looked like and the kind of thought process behind all of this.

Cliff Struhl

That's an interesting question. There was no real thought process behind it because that was the business model of the business I was at, my main core business that we've been doing since 1948. Our specialty was sales reps and/or catalogues and now websites selling our products, sending us orders and shipping them directly to customers the same day. So, that was our normal mode of business. My office staff, my factory, my production people are all geared for that system. So, it was a system I understood incredibly well. It was fine-tuned. We knew how to work it. So, it was just a matter of keeping the dealers happy, giving them products, giving them support, standing behind the products. So when I go to a show, I tell dealers, I show, you sell. And with NAHBE coming up again this year, we have a bigger booth, and we're doing the same thing for our dealers. We're there demonstrating the products, giving free samples away and then directing them to dealers to buy. I don't want to compete with my dealers. We're probably one of the few manufacturers that does not sell direct and gives the dealers every bit of margin possible and the only people they compete with are the other dealers. So, everybody's on an equal level playing field. I think that's the fair way to do business. It works for us, and it works for them.

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Jamie

Goodness, Cliff, I want to take this so many directions, but I think there are some things that I'm hearing that I think are important for other people to hear. So, they get into beekeeping, and they may have a secondary skill set naturally. Maybe they work with wood. Maybe like in your case, you have this background with plastics and molding and all of this stuff. Maybe they have a pest control background and can think about swarm traffic. But nevertheless, their other interest can inform the direction that they take their beekeeping enterprise. But I'm hearing you say you have got to be ready. It's a lot of work and you're going to have to make sure that you can last it out and be patient and all of this stuff. So, I think this leads kind of naturally to the next question is can you talk about some of your successes and challenges? I'm not necessarily saying about a product that you make that's amazing or less so, but more like from the business perspective, here's some successes I had and here's some challenges I experienced because, ultimately, our listeners around the world are going to want to hear those tidbits of information that inspire them to branch out or give them a heads up for what may be coming around the corner.

Cliff Struhl

OK. So, I'll start with something else that I missed earlier. One of the things I do when I'm designing the products is form and function. Function is easy, form is a little bit more difficult. As an artist, I try to make the products look really nice, be visually appealing, because it makes the product just fit in nicer and more attractive to customers to buy. I can make a product that's very functional and ugly, or I can put a lot of extra effort in the design stage to make it look nicer. It doesn't cost much more on the production, but it actually you pay upfront, and you reap the rewards down the road. So, I take pride in the look of the products we design. When it comes to successes, the core products that we make have been very successful: cover, inner cover, bottom board. We have probably the number one robbing screen on the market. Challenges? Bee feeders.

I came up with a feeder concept about 10 years ago. It worked great, but it had issues, and we continue to tweak the product, tweak the product. At the end, it worked great, but it had a little bit of a reputation of issues. I took the big step. I discontinued the product, came up with an alternative product that I actually think works better, is more effective, but it took a whole new bunch of investment to redesign the entire product from the ground up. But I'm a believer in that Japanese term Kaizen, which is continual improvement, so I'm never satisfied. So, our original hive stand worked well. It sold well. It was a little expensive to make with the technique we were using. So, we redesigned the entire product with a different molding system to bring our cost down, to bring the price down. We added another patent to it to make it a more robust product. So, I continue to innovate. I'm never stopping on what we're doing. That original feeder that we had problems with will probably be reintroduced this year with a new version that solves all the problems we had with the older versions. It's just taking time to work through it. But there's challenges in everything. Some products do very, very well. Some products are not so successful, but if you don't take the chance, you won't know if they're going to sell or not. There's an old



adage if you don't have some failures, you're not trying hard enough. Although I don't want a failure, some products just don't do as well as others and some just are great and they just don't catch on for one reason or another or they take a long, long time. But when you're in business, regardless of beekeeping, any business, it's a long haul. You need to invest in the long run and have patience. You're not going to make money overnight and nothing's going to happen quickly.

Amy

Definitely. I think those are some really great words of advice. Everyone sees the successes, but they don't see how many failures it took to get to that success, so I think that's great advice.

Cliff Struhl

Right. They also don't see how much work is involved to do it. It's easy to come up with an idea. It's easy to cobble together some product, it's easy to start to show it, but it's very difficult to educate the people out there. And in beekeeping, it's particularly difficult because you're doing battle with mentors and old timers that are very rigid in their thinking of how things are supposed to be done or are done. And they're not open to different ways of doing it or understanding that there may be other ways that they did not learn about, or they don't try. I'm a big believer with our products and I tell all people, give it a side-by-side test. You don't know if it's going to work or not. You've got 6 hives? Put our products on one or two, give it a year or two. Test side-by-side and compare the results. Generally, in beekeeping, a lot of times people do the same thing over and over with the same results that are not good. That's the definition of insanity, and the question is, is there a better way? And why wouldn't you try something a little different to see if you can get a better result or not work so hard or make things easier on you? Why struggle on a hobby?

Amy

So, Cliff, I'm listening to you, and I'm wondering, at what point do you decide something's really just not working? At what point do you decide we're going to do something different? We're going to either drop it or we're going to completely revise it. What does it take?

Cliff Struhl

Well, I'll give you a perfect example. I think my third product, because I was a relatively new beekeeper, and when I started, frame grips were a big thing. I don't know if you remember that back in the day, everybody wanted the frame grip, so they didn't have to use their fingers to lift the frames. So, we decided to make a molded frame grip that also had a frame separator and a hook tool in it to lift the frame. So, it was a do everything tool, sounded great, worked nicely. No one appreciated it and it was a struggle to design that thing. It was a bear of a mold. It was a difficult thing, and we tried as hard as we could to get it out there. People just didn't understand it. After a couple years, it was like, OK, it's not selling, I can't shove it down people's throats. I'm



not going to give it away. We just scrapped it. That was an expensive tool that basically is sitting in the back of a warehouse somewhere doing nothing. The Beefeater, the original part, we'd scrapped that, and we're now reinventing that product again with a new investment into that. You've got to be able to take your losses sometimes and lick your wounds and go, OK, I tried, it wasn't there. But I have a number of other products that are successful, some doing better than I could have ever imagined, some doing well. Not everything is going to set the world on fire. Some things are just going to sit there and they're there, and they just grind their way through year after year after year with moderate sales. But enough to justify maintaining the inventory, keeping it on the website, having it in the catalogues, and not distracting people from your other products with that, because you also don't want a dog that gives you a bad reputation that, oh, they make that, it's a piece of garbage, so I'm not going to buy their other products. They're probably just as bad as that one. So, you need to figure out how to keep your reputation out there and when to just throw in the towel and go, no, not working. I'm not going to continue that. I need to spend my time more productively. Where's my ROI? How am I getting the biggest bang for the buck and move forward and be willing to say OK, I lost on that one.

Jamie

So, Cliff, when designing products, what is the thought process into creating new things that would be of use to beekeepers?

Cliff Struhl

One of the ways I come up with products is I'm a beekeeper, I'm 68 years old, I'm in very good physical shape, but I struggle with some aspects of beekeeping, and a lot of the way I come up with products, designs is, I said what would work for me? What do I need to make my life easier as a beekeeper? That, I think, has helped tremendously because I'm doing it. As you get older, as you have injuries, things happen, and you try to find ways to make your life easier. A hobby should be fun, it shouldn't be torture, it shouldn't be a struggle. You should be able to find ways to do it easier, more enjoyably. So, I use that as a model to come up with some of the products to take the stress out of beekeeping and to make it easier on both the beekeeper and less stressful on the bees.

I think that's helped with a lot of the product design. So, if you're coming up with something, you've got to come up with something that works for all aspects of it. The beekeeper is primary. Lifting boxes is not fun. If you're a woman with long nails, wearing gloves, using finger holes, that's not fun. If you're getting a little older, lifting boxes, especially the deeps and the honey supers, is not fun. So, can you come up with a better way to handle that? Can you come up with a better way to not disturb the bees when you're opening the hives? Can you come up with a way to feed the bees without disturbing them? Things like that. That's how I came up with some of the products. Say, what would I like, what's going to make my life easier? Some of these are not expensive. I call them cool tools. There's a lot of little things out there, a lot of little



opportunities. And if you have one, you don't have to make a big business. You can make a little business. You can operate out of your garage if you have some of these little items. If you decide to go into a larger product, then you're going to need a bit more sophisticated business plan business operation, warehouse, things like that. But you can do many products, small ones that you can kind of make as a garage business. It's not going to make you rich, but you may have fun doing it. It'd be something enjoyable and hopefully it will have a slightly positive cash flow.

Amy

I think that's fair. So, you've sprinkled a couple of pieces of advice throughout this episode. My question for you now is if you had one piece of advice for new beekeepers looking for ways, not even new beekeepers, just in general, if you had one piece of advice for beekeepers looking for ways to make money with their bees, what would you say?

Cliff Struhl

I'd say really got to think it through thoroughly. You need to make some prototypes. You need to test it. You need to show it around. You need to really understand your numbers. You need to understand that it's not going to happen overnight. I'm sure a lot of your listeners watch Shark Tank, and if you watch Shark Tank enough, you learn. You need to know your numbers. You need to know your cost of customer acquisition. You need to know your true cost of manufacturing or making things. It's rewarding when it works, but you need to understand that it could be frustrating when it doesn't. And it's going to take a lot longer than you think, cost a lot more money than you imagine, and generate a lot more frustration than you've ever been through. But if it works, it's great. If it doesn't work, you have to say I gave it a try. I can afford the loss. I'm not having false expectations for what I'm going to do because the beekeeping business is also a niche business. How many widgets can you actually sell when there's less than 1/4 of a million hobbyist customers out there with one or two hives and you're only going to get a small portion of the market? Can you actually turn this into something? As I mentioned earlier, when you go to the shows, a lot of the products you see, you don't see a year or two later. But there are those few products that I've seen, I go, don't really get it, don't understand it. But 5-10 years later, they're still there and they've made it, and they found a market and they're grinding away. But I don't think they're racing to the bank with their millions. They're grinding and they're making money, and they have a successful business and something that meets their needs. Otherwise, they'd be out of the business and find a different a different thing. Some people do it for money. Some people just enjoy coming up with products and selling and meeting people and just being part of the industry. It varies tremendously on what you do.

The one other thing that I would suggest is with world turmoil these days, try to find US manufacturing. My products are 100% made in USA, which eliminates all of our supply chain issues. Most are done locally, and we have very tight relationships with our vendors, and actually, I refer to them as my team. So, I have a very big team of people, both my internal staff,

my designer engineer, and my molders that I all have a very close relationship to. So, I get a lot of feedback on product design. So, I may come up with something and someone may say, you know, if you change this, we can bring the cost down and we can make this better, we can add this feature. So, you need to be open to suggestions and feedback from people in every aspect of what's involved in creating the product. You don't know it all. You may think you do, but you really don't. And that's, I guess that's my biggest piece of advice. Go in with your eyes wide open to understand the odds of success are limited, but you can have other successors other than monetary. It can be fun. You can enjoy doing the shows. You can enjoy meeting people. You can enjoy going to meetings and clubs to talk about your product and see if you can interest people in them.

Jamie

So, Cliff, I started keeping bees when I was 12 years old. So, I was a beekeeper first and then kind of became a bee scientist and a professor obviously later in life. But occasionally when I'm out speaking somewhere, I'll get someone who asks me a question: Jamie, do you still keep bees? It's almost like testing my street cred, right? So, Cliff, you've given us a lot of good advice about spiraling out from these traditional ways of making money with bees. But I'm just curious, do you still keep bees or are you still as in love with the hobby as you were when you when you got it? Or has it become strictly a business thing now where you just sell beekeeping equipment, manufacture or sell beekeeping equipment?

Cliff Struhl

I am still a very active beekeeper. As a matter of fact, I just went through a turmoil that most beekeepers don't have to go through. My neighbor turned me into the town, and where I live you need a special use permit to keep bees. So, I just spent \$17,000 on legal fees to maintain my 15 hives.

Amy

Oh my gosh. Well, that's happened to me too, but I didn't have enough money at the time to pay that.

Jamie

He sounds like a beekeeper, Amy.

Cliff Struhl

But you know something, I separate the beekeeping hobby from the beekeeping business. Other than that, I pretty much buy everything that I can find on the market. I put it in my apiary. I love to test all different products. I do product development on the products we're working on, but I have 15 colonies because that's what the town will limit me to, and I need to keep them, believe



it or not, 50 feet from any property line, which is kind of not following the normal 10 feet from the property line rule. But I've been testing all the products for years. I've used monitoring to see how the products work, and generally I'm pretty successful. I have a loss of only 10 to 15% a year, and my average yield is over £100 per colony on metro New York.

Jamie

Listening to that just convinces me that you're a beekeeper because you're going through some of the same struggles that beekeepers just go through, right? So, Cliff, I do want to thank you for coming on and speaking to us again. We're not talking about the marketing distribution of your products. It's more like, OK, I started beekeeping, but I wanted to spin out from that, here are some tricks. I really appreciate you sharing some of those tricks and your experiences trying to grow your business outside of the traditional beekeeping sphere where you're not selling honey, you're not pollinating crops, you have a specialty in creating and manufacturing products. So, thank you so much for joining the podcast and sharing some of your thoughts and some of the struggles and successes that you've had kind of spiraling away from the more traditional ways of making money with bees. Thanks again.

Cliff Struhl

Thank you very much, I appreciate being invited. I hope my talk was useful for people. If you're going to go into a product, keep a positive attitude, have fun, enjoy it.

Amy

So, Jamie, we've mentioned this a couple times before, but I have a USDA grant focusing on beginning farmers and ranchers. I've been working on some of the objectives that we have, our business planning, business marketing, looking at different honey bee value added products and then looking at hiring people. So, just kind of the business aspect of it, obviously I am not a beekeeping business owner. I'm not a commercial beekeeper. I don't make money outside of, you know, my job gets paid to talk about beekeeping and to share beekeeping. But it's always such a different experience when you're inviting a speaker who actually is going through this. And to hear it first hand, there are similarities, right? So, it's kind of fun to look at some of the resources that we have through the grant program where we've created resources for people. Then, to hear it first hand from someone who is going through it and sharing their experience and sharing it in a different way. That's a little bit more relatable, I think, than an online course that we have sometimes.

Jamie

Yeah, I mean, for sure, people get into bees for zillions of different reasons, but it commonly goes from like one step to the next. OK, I've got bees. Oh my gosh, can I make money selling honey or pollinating crops? I teach a number of lectures over the years, or I have taught a



number of lectures over the years about making money with bees. It's common things, honey production, pollination, selling packages, selling nucs, selling bees, etc. Well, there's many ways to make money with bees, and Cliff came on and talked about yet again, a different way, researching, creating and selling new beekeeping equipment that's different than what's already available.

And what I really appreciated about him talking about these things is you heard some of the struggles, you heard some of the success stories, you heard some of the things you have to consider. You heard the importance of persistence, and you heard the importance of failure. I've seen this first hand as I've worked with you on the grant that you got with individuals trying to take that next step up. So, it's really great to have individuals like Cliff join and talk about their experiences trying to find ways to monetize beekeeping beyond some of the more traditional ways of just selling kind of your or selling hive products. So, a great lesson to our listeners around the world to personalize the struggles and opportunities associated with monetizing at one's beekeeping operation.

Amy

Absolutely. I would love for our listeners to send us an e-mail with their experience and maybe tell their story about some of the failures and some of the successes that they've had and maybe lessons learned. So, I'm excited for that. You all know how to reach out to us. Either send us an e-mail or reach out to us on one of our social media pages.

Stump the Chump

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

Amy

All right. Welcome back to the question and answer segment. Jamie, the first question we have, this is a fun question, what is the most surprising fact that y'all, I guess both me and you, have found out about honey bees? What's the most surprising fact that you've learned?

Jamie

Well, the fact that this individual said y'all in the question means --

Amy

They must be from the Midwest or the South.

Jamie

The southern half of the United States. So, definitely the way I speak. OK, well, this is, in fact, a fun question. What is the most surprising fact that you guys have found out about honey bees or that y'all have found out about? So, they put the qualifier in there. What y'all have found out, not

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the most surprising fact you know about honey bees, and so that definitely weeds it down. As you know, you and I look at these questions before we come on the air. So, I've been sitting here going, what is the coolest thing that I've discovered? Me and my team specifically. It goes back, I think, to one of the earliest discoveries that colleagues and I made when I was very, very young and a brand-new PhD student at Rhodes University in South Africa. I went to Rhodes University to study small hive beetles and a colleague of mine, Peter Neumann, who we've interviewed on this podcast before, who's now a world-famous bee professor. He was a postdoc in the same lab where I was a PhD student at Randall Hepburn's lab at Rhodes.

So, Peter and I were there well prior to me starting my PhD at Rhodes. Peter had shown that honey bees can push small hive beetles into cracks and crevices around the hive and then station guards at the sites, effectively imprisoning small hive beetles with the bees themselves being prison guards. He wrote a paper telling the world about this prison system that bees have. So, when I was a brand-new PhD student, I was able to study this prison system a lot. Well, we know when I had gotten there, Randall Hepburn, Christian Perk, a few others had seen at these prison systems, there's this interaction between bees and beetles while the beetles are encapsulated.

So, beetles will come up to the edge of the prison, they'll rub their antenna on the mouth parts of the bees, and more often than not, the bee would attack the beetle, which would run the beetle back down into prison. About 90% of the time that would happen. But occasionally, the beetles seem to hit the right spot on that bee's mouth, and the bee would simply start regurgitating nectar, and the beetle would sit there and feed on the nectar and go back down into prison once its belly was full. So probably the most tantalizing discovery that I've been a part of, especially as a young scientist, was the one that my colleagues and I at Rhodes made that small hive beetles are able to trick their honey bee captors in defeating them. That's not just an African bee thing since I was in Africa. Our bees in the United States and *Apis mellifera* around the world seem to engage in this behavior with small hive beetles. So, that was probably the coolest biological thing I was able to contribute to. In the most recent years, in the last five or 6-7 years, I guess, as an older academician, probably the most impactful or talked about thing that I was a part of was when Sammy Ramsey and Dennis Van Engelsdorp's lab and my lab and the lab at the USDA out in Maryland, a couple other colleagues discovered that *Varroa* feed on fat bodies, not just honey bee hemolymph. But of course, probably if you're listening to me out there, you're very aware of that. So, our lab was a fortunate contributor to the science associated with that. So, that's kind of one of the more recent interesting things that shook a little bit of the honey bee research and beekeeping community. So, probably the most tantalizing thing would be that small hive beetles can trick honey bees into feeding them. Every time I show that video that an Austrian colleague, Gerald Kessberger, took while I was at Rhodes University, every time I show that video of the beetle getting fed by the bee, the audiences are typically are just stunned.

Amy



That's always so fun. Actually, those two things that you mentioned with the small hive beetles and able to trick while they're in those little prisons, and then the Varroa discovery, what they were feeding on, those are things that I bring up quite often when I'm doing talks. Just the importance of keeping up with the research and understanding what's going on in the industry because things can change pretty quickly. So, those are two examples that I use. Yeah, So that's really fun. OK, so for the second question that we have, this questioner, this is funny, this questioner is actually our podcast coordinator, which is hilarious because, Jamie, I don't think people realize this, but the people who actually work on the podcast are not bee people. They're all communications people. They're journalists. They know the technology, but they learn so much about bees. We're a family here at the University of Florida Honey Bee Lab. And Mitra went to a museum, she saw that that bee venom could be the answer to arthritis, and she's like, is this true? Have we talked? And she's like, I've heard us talk about the medicinal properties, but are there human trials actually being done? Is there anyone doing this research specifically on bee venom and I guess the health aspect, to arthritis and things like that?

Jamie

I'm giggling thinking about it being Mitra, who's asking this question here. She's our podcast coordinator. She can make me say anything she wants to right now, regardless of what I say.

Amy

I know.

Jamie

She's got editing power. So, I was going to say Mitra's a superstar. She really is great. She's fantastic. She helps this podcast keep rolling, but she might even put more adjectives. So, if it sounds like I'm saying Mitra is a superstar, then she might have inserted those notes. She truly is great. All right, Mitra, I'm going to try to answer your question here in the podcast. Ever since I have been involved with bees, I have heard beekeepers say that bee venom is good for X, Y, and Z. You specifically mentioned arthritis. I've heard all kinds of things. Even my mentor, when I was 12 and 13 years old, was telling me about all the things that he uses bee stings for, eats honey for, eats pollen for, etc. So, let me just calmly say this.

Number one, there is a field of apicultural research called apitherapy and it's what it sounds like. Apitherapy. That would be using bees, bee hive products, any of the above for human and probably other animal medicine as well. So, apitherapy. So, some people think propolis does this for you, some people think royal jelly does that for you. Some people think venom does this for you. I do not study apitherapy. I don't do any human health research. I do not do animal health research outside of honey bees. So, I typically try very hard to steer away from these questions. In fact, we get told a lot that we shouldn't be making any human health claims with honey bee stuff, and so I can't make human health claims with honey bee stuff. I will say there's a large

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group of people around the world who definitely believe in the, quote, healing power of all kinds of things related to honey bees.

On the other hand, I am a trained skeptic by default. I'm a scientist. I don't need anecdote; I don't need feeling. I need data. So, one person saying, I had arthritis, and I stung my knee and it's all of a sudden better, that's just not enough for me. I need replicated studies where there's placebo effect type things and controls. Since that's not my field and I don't spend a lot of time on the literature, I tend to remain skeptical of a lot of the claims of apitherapy. But there is clear support for some things. One of those, as an example, is honey as a wound dresser. You see this especially with claims with manuka honey that's produced in New Zealand and Australia. If you've got antibiotic resistant bacteria that's attacking a wound, sometimes they'll use honey as a wound dressing. People have been using honey as a wound dressing for a very, very long time.

They do this in the veterinary field, the human field, etc. Again, I'm not a medical doctor or a veterinarian, so I can't make those claims myself. So, in reality, the individuals who should be answering those questions would be medical professionals. Maybe, Amy, what we should do is bring on some specialist in apitherapy. But I will say, generally speaking, I usually start with skepticism and have to be won over with data. The same is true when people talk about eating local honey for their allergies. Well, I've been eating local honey my whole life and still have allergies. So, what am I doing wrong? So it's those kinds of things that I just need data. So, to your specific question, Mitra, it's a fantastic question. I just don't know the answer, and really, I'm not the right one to be asking. It would have to go to an allergist, or in this case a rheumatologist probably, since it's an arthritis type question. But, good question. There is whole field of research. I know that we'll probably get a lot of e-mails pointing us to papers one way or another about certain things. Maybe, Amy, we should bring some folks with apitherapy on, but they're going to have to bring data and not stories.

Amy

Right, right, definitely. And then, when you think about it, everyone has different reactions, right? So, bee venom, it could be completely different for you and for me. We think about allergies. I could wake up tomorrow and be allergic to mangoes, right? So, you never know. I feel like it's quite the risk to kind of mess with that.

Jamie

Amy, I'm so glad. You are here to add so much color and flavor to Two Bees in a Podcast and also to keep me out of trouble. And you just kept me out of trouble. You're right. When we're talking about eating honey, when we're talking about eating pollen or propolis, we're not talking about really high-risk things for the vast majority of people. But when we talk about stings, we are talking about high-risk things, right?

There's a percentage of the population who's allergic to stings, and if they don't know if they are or not, then bee sting therapy could be a tremendously terrible thing for them. So, especially when it comes to venom and bee stings, I just have to defer to experts on the topic. So, I generally refrain from adding information from a data collection and data interpretation standpoint.

Amy

So, Mitra, that was a really long way of answering. We don't know.

Jamie

Yeah. How was that for a disclaimer? Let's see how you edit that one, Mitra.

Amy

Oh my goodness. OK, so to our third question for today. This person is saying that a suggestion has been made that they set up their hive boxes on a pole structure instead of cinder blocks and wooden slats. Is this practical? It seems like maybe a quote unquote hive holder attached to a pole would hinder the ability to move the hive if they need to move it. Are you using cinder blocks? What is the standard setup and why? Lots of questions there.

Jamie

OK, good question. Yeah, I say this a lot and it's so true. When I talk about research stuff, I try to use data and facts, and when I talk about beekeeping, it's 100% opinion. This is a 100% opinion question. There are no right stands. There are no wrong stands. It's 100% what's convenient for you. Commercial beekeepers keep bees on pallets, 4 colonies on a pallet, at least in the US, 6 colonies on a pallet. This is true for other really big, industrialized beekeeping countries. So, you could argue that the most standard of all the hive stands would be the pallet, because most bees are kept on pallets because even though there's fewer commercial beekeepers and hobbyists, there's more bees and commercial operations than there are hobbyist operations, making the pallet the most popular stand. But for hobbyists and sideline beekeepers and for a lot of beekeepers around the world who are commercial beekeepers, the pallet is not practical. They don't like bending over, they don't like the try weed control, just there's just a lot of pain associated with it. So, what do you do? Well, you do 100% what's convenient for you. Look at a lot of different ways that different beekeepers in your local or state or regional or national bee club keep their bees. How do they put them on pallets? Do they put them on hive stands? Do they put them on cinder blocks? Do they put them on wood? Do they put them on poles? Try a few things yourself and find what's most convenient for you. I'm going to tell you what I do, but that doesn't make it right. It's just what I like, and here's what I do.

I will take two cinder blocks, and a cinder block is a bit of a colloquialism. Folks around the world, I don't know exactly the dimensions of cinder blocks, but they're basically blocks that are



made out of cement or concrete type material. They are roughly, oh gosh, I'm going to be wrong here, roughly 12 inches, so roughly a foot thick. So, what I typically do is I will put two, so one on top of another, two on one side and two on another side about six or seven feet away. So, two on top of the other, in one spot and six feet away, the same setup. Then I run a 4x4, a six-foot 4x4, so that's 4 inches by 4 inches. I run 26 foot 4x4 runners from one set of those cinder blocks to the other set. And then I put a full size Langstroth hive on one end and a full size Langstroth hive on the other end. I know it's really hard to picture this since this is a podcast. I'm having to describe it verbally. But essentially, what this does is it allows me to put two hives on this hive stand, one on either end, and it leaves about a two to three feet space in the middle that when I work one hive, I can put its supers in its lid on the stand between the two hives, rather than having to bend all the way to the ground to put the lid and the super.

So, to me, it just keeps me from bending over. The brood box in this type of situation is right at where my hands are without me having to bend over. It's just convenient for me. Amy, maybe we can find a way to link something, a video or something that shows what I'm talking about.

That's just convenient for me. But I don't go around to beekeeper groups saying you've got to use this hive stand. Honestly, whatever is convenient for you is what you should use. It's better to have them up off the ground. You don't want to bend over a lot. If you meet those two criteria, I don't care if it's on a pole, on a cinder block, on a piece of wood, on a plastic table. However you do it, if it works for you, that's the great way to do it.

Amy

Yeah, Jamie, so, I became a backyard beekeeper about it a little over 10 years ago. One of my friends was an arborist, and that's what we used as our hive stands. I basically just had him, when he went out and had a job, he would cut these huge trunks out of a tree and would just give them to me and we'd roll them out to the apiary, we'd stand them up, and then set a hive on each little piece and it was just a free nice stand to have and it worked out really great.

Jamie

I love it. That's really cool. See, already using just random stuff that's available. It's a good idea.

Amy

Absolutely. All right. So, thank you so much Brian, Mitra, and Anne for your questions for today. For our other listeners out there, don't forget to send us an e-mail or you can send us a message on one of our social media pages.

Thanks for listening to today's episode. This episode was edited and produced by our podcast coordinator, Mitra Hamzavi. Thanks, Mitra.

Jamie



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