

EPISODE 198 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, and welcome to another episode of Two Bees in a Podcast. Today, we are joined by Dr. Brittney Goodrich, who's an Assistant Professor in the Agriculture and Consumer Economics Department at University of Illinois in Urbana-Champaign. She's here to speak with us about almond pollination contract analysis. Brittney, thank you so much for joining us on this podcast.

Dr. Brittney Goodrich

Thanks. It's good to be here for sure.

Amy

So, Dr. Goodrich, our listeners love to hear, especially since this is the first time for you to be on the podcast, they love to hear about yourself and how you got into the beekeeping world.

Dr. Brittney Goodrich

Yeah, it's kind of an interesting path to the beekeeping world. So, I'm originally from Iowa, so I grew up in the middle of nowhere. There's lots of corn and soybeans. Not a ton of beekeeping, though, I feel like it has increased in recent years.

But I didn't know anything about commercial beekeeping, or beekeeping in general, for most of my life this far. And then I decided to go out to California to get my PhD in agricultural economics. And when I did that, I went from the land of corn and soybeans to what I now know is the land of almonds and learned about specialty crops in California and happened to learn about the almond pollination industry. I found it really fascinating and decided that I didn't want to do any research on corn and soybeans anymore. I really wanted to do some work on the almond pollination market. So, I spent about three years diving into beekeeping and almond pollination. I ended up writing an entire dissertation on pollination contracts between beekeepers and almond growers.



It was a lot of fun. I got to meet a lot of really awesome beekeepers and almond growers and pollination brokers in the industry and had a lot of fun collecting information from them, gleaning lots of information about almond pollination and beekeeping, and then have just continued that interest going forward in my research.

Jamie

Well, Brittney, I'm intrigued because all the stuff that you're doing is stuff that I think is very important. And now, I have a million questions for you. But I need to preface my comment here that we have an international audience. There's a lot of beekeepers from around the world who listen to us, and so they're wondering what this whole almond pollination contract analysis is all about. What do you mean by almond pollination? What do you mean by beekeepers in the US? And what I would say is, you know, we're going to use this US pollination of almonds as a case study to understand kind of a greater contract analysis for pollination in general.

So, with that framework, could you talk a little broadly about, you know, how many commercial beekeepers in the US head out to California to pollinate almonds annually? Could you describe this process, the volume of beekeepers, why it's necessary, just to provide a background for our listeners who may not be familiar with this type of scale of beekeeping?

Dr. Brittney Goodrich

Yeah, for sure. One of my favorite quotes that I show on some of my almond pollination presentations is I think it was the Washington Post that dubbed it the Super Bowl of beekeeping. It's almost Super Bowl season here in the US. So, it's a big deal for commercial beekeepers. Why it's a big deal, for some context, so California produces probably upwards of 80% of every almond that is consumed worldwide. So, California is the primary producer of almonds. So, any almond you eat, more than likely it's coming from California. Up until recently, most varieties of almonds require 2 honey bee hives per acre for commercial almond production. So, every almond you eat needs to be pollinated by a bee of some sort. Honey bees are kind of the most commercially viable way to get this pollination done. So, what that means is in California there's over 1,000,000 acres of almonds and every year those almond orchards need to be pollinated. So, the commercial beekeepers in the US make a trek to California to pollinate these almonds. Roughly 1.4 million acres of almonds requires about 2.7 million colonies, 2.7-2.8 million colonies, which is virtually all of our honey bee population according to USDA numbers.

And so that means essentially all commercial beekeepers, for the most part, are going out to California every year. They're putting their hives on semi-trucks, they're sending them out to California to put them in the almond orchard. This, you know, this mass kind of trek of commercial beekeepers out to California. The only way they're going to go is if it's economically viable for them. They're being paid roughly \$200 for each colony that they ship out there. So now almond pollination has made it so that this roughly 3-week period, three-to-four-week



period during the year, which almond bloom typically starts around February 15th and maybe goes to March 15th, that's going to provide over half of the revenues for a commercial beekeeper for the rest of the entire year. So, they're making more money from almond pollination than they are from honey production throughout the remaining 11 months of the year. So, it's a big deal for commercial beekeepers, it's a big deal for almond growers, because if you don't have that pollination happen, you're not going to produce any almonds. I think that gives some context for folks outside of the US and maybe some folks in the US that haven't really thought about almond pollination before.

Amy

Yeah, I love the whole almonds are the Super Bowl event of the year. Go Chiefs, by the way. I have to. I'm from Kansas City. But I really appreciate that. So, Brittney, you conducted an economic analysis, and I'm interested, you know, we'll talk a little bit about your project. You kind of stated how you got involved, but what's the history behind this project specifically with pollination contract and looking at this economic analysis?

Dr. Brittney Goodrich

So this is something that I've been long interested in, pollination contracts in general. And that interest kind of comes from my overall research interests, which are looking at how farmers and beekeepers and agricultural producers in general, how they deal with risk and uncertainty in their operations. One of the things that has been, forgive the pun, kind of a buzzword in recent years, especially in almond pollination, is planting bee friendly cover crops. So, these are going to be cover crops. They're usually mustards or sometimes legumes, like clovers, and anything that's going to bloom and give the bees that are in these almond orchards some other source of nutrition. And that's really helpful for beekeepers and their honey bees, ultimately, because there's been a lot of scientific studies showing that bees really benefit from a diverse nutritional source. When almonds are blooming in early February, virtually nothing else is blooming at that time. The bees only have almonds to go to. They really benefit from having some other blooming forage at the same time. It's something that beekeepers were interested in.

But on the almond grower side, it's costly for almond growers to kind of purchase that seed and start the cover crops growing. But also, there's a lot of uncertainty involved with planting one of these cover crops because we all know that water is fairly scarce in California. So almond growers have implemented all of these cost water saving measures, and so they don't actually water the middle of almond rows, so between the almond trees where the cover crops would grow. They're targeting kind of that water right toward the almond tree where it's needed.

What that means is that if they don't get timely rains, they can kind of plant these bee friendly cover crops or try and plant them and the seeds just won't germinate and won't actually take off and start growing. So, what I wanted to do was look at, okay, we know that these cover crops are



maybe costly for growers to plant or to get growing. We know that beekeepers really value them. So, one of the things that wasn't quite there was how much do beekeepers actually value those cover crops? What we wanted to do with this study specifically is figure out that question and then also look into other potentially beneficial contract components that beekeepers might value or not value or negatively value them. So, we wanted to look at things like, we know pesticides are always an issue when commercial beekeepers put their colonies in agricultural areas. So, one of the things we wanted to look at was how much do they value additional pesticide protection in their contracts? How much do beekeepers value advanced payment? Because we know a lot of beekeepers are coming from Florida, where you all are, the East Coast. So, having an advanced payment may make it more secure that they're going to at least get some payment for driving all the way out to California for almond pollination.

That was kind of what we wanted to find out about these different pollination contract components. And we realized, you know, nobody has actually really looked into them before to figure this out. So, I was able to work with another associate professor at Louisiana State University, Jared Penn, who had this economic methodology that we were able to use to extract the value of those different components.

Jamie

So that's a perfect segue into my question, which is, you know, I think about being an entomologist and setting up experimental designs and answering questions related to beekeeping, bee husbandry, etc., but as an economist, you have a completely different strategy for extracting, gathering and processing data. I'm assuming a lot of it was survey based. Could you walk us through how the project works? Just from beginning to end, you have this idea. Now you've got this amazing result. What's the bridge between those two?

Dr. Brittney Goodrich

Surveys were conducted. Folks in the beekeeping industry probably get annoyed with all of the surveys that they end up doing, but they are really helpful, especially for economists as well as entomologists. But this is exactly what we did. So, the way that the survey, well, technically it was an economic experiment, was set up is that it was all done online. We essentially showed beekeepers two different contracts. We made the assumption that these were all standard contracts. 8 frame is the technical term for the standard almond pollination contract.

With that information, these contracts had randomized additional clauses. They may be choosing between a contract where the grower had planted a cover crop, a bee friendly cover crop specifically. They may have an additional pesticide clause and that contract compared to something like another contract with an additional advance payment clause. All of these contracts had different pollination fees associated with them, and so basically beekeepers had to



choose between these two contracts or a standard agreement that had no additional clauses and was \$200 for those 8-frame colonies.

We did this online survey in basically almond pollination season during 2021 almond pollination. Our thought process was, we know beekeepers are all out in California after they've placed their bees for almonds, maybe they don't have as much to do. And so we were kind of targeting this time period where we started the survey February 15th so that beekeepers would be thinking about their almond pollination decisions, maybe have some additional time to fill out the survey while they're out in California. So, we kind of did this mass targeting effort. So we had American Honey Producers Association involved, Project Apis M. sent some emails out. We had a lot of different beekeeping organizations that were involved in marketing this survey.

Our target was to get these commercial beekeepers that had participated in almond pollination before. We were really targeting commercial beekeepers, like I said. We sent it out to them and then they answered some other questions. But then the primary component was choosing between these different contracts, which we then we were able to put into a statistical analysis and back out the valuation of each of these components. But we received roughly 100 responses from beekeepers. Not all of them were usable of course, but the average, to just give some context for what we were looking for, the average size of the operation was around 5700 colonies. That was ultimately what we got. So, these are large commercial operations. So that would be roughly 13 semi-truckloads of colonies. Those were the folks that were answering the questions and telling us how much they value these different components. So that was kind of what was done on the back end to get the ultimate results.

Amy

As you were talking, I had all these questions, like, I wonder how many beekeepers filled out this survey. I wonder what their operations look like. So, I appreciate you answering that. As I was thinking about it, I was going to ask you, but you've covered it, so I appreciate that.

Dr. Brittney Goodrich

That's great.

Amy

So I'm excited to know, you know, what were the results of the survey? What did you find?

Dr. Brittney Goodrich

As with any survey, we wish we would have had more responses because I think we would have been able to glean a little bit more information on some of the lesser valued contract components. However, we did find some really interesting things. We looked into specific cover crop mixes, and we based them off of the Project Apis M. Seeds for Bees mixes just to do



something standard that everyone would know. There were three different cover crop mixes that were kind of randomized and explored. So, one was a pure mustard mix. Those types of mixes are going to bloom fairly early and can even be blooming right now. So those are really valuable. We did a legume only mix, so that's going to be clovers and those are going to bloom later in March and April. And then we did what at the time was called soil builder mix. I think it's called something slightly different now, but it's a mix of the mustards, the clovers, and a few other types of cover crops that soil mixes would also benefit from.

What we found is that beekeepers largely did not value the legume cover crop mix, and that was primarily because by March 15th, beekeepers are leaving almond orchards, and these clovers may not be blooming by that point. Overall, they like clovers, of course, but they weren't going to be blooming at a time that was going to be beneficial. So, beekeepers weren't really willing to accept a discount in their pollination fee for planting a clover only mix, but they did really value the pure mustard mix and that kind of soil builder mix, which includes mustards, legumes and other types of cover crops. And that's because those mustards actually bloom really early on, and they're going to be blooming at the same time as almonds. They're going to be providing nutritional resources for the bees. So beekeepers, for those mixes, were willing to accept \$5 to \$6 discount per colony for a grower having planted those mixes, which roughly equates to about 3% of the total pollination fee.

So that was really interesting, kind of finding the different valuations of the cover crop mixes, which can really help inform growers what they should be planting if they want their beekeepers to benefit. The other thing that was really interesting that we found was that by far the highest valued clause was the additional pesticide protection clause. What we had for this clause was we based it off of the Almond Board. It has some best management practices for when bees are in almond orchards. A couple of the pesticide-related best management practices are not applying any sort of pesticide. So, mostly that's going to be fungicides during this time of year while bees are flying. So, trying to apply the pesticide later in the day or overnight so you're not exposing the bees to that pesticide. And then also not tank mixing any fungicides together because there has been research showing that, you know, if you tank mix 2 products that are not usually toxic to bees, they can be synergistically toxic.

Beekeepers really valued having clauses in there that said the grower is not going to apply during the day, they're only going to apply at night, and they're not going to tank mix any pesticides. And that one, they were willing to accept about an \$8 discount per colony, which is about 4-5% of the total almond pollination fee per colony. So that was another finding as well. And then beekeepers also valued pre-payment. Beekeepers were willing to accept about a 2% discount per colony. So not as highly valued as the bee friendly cover crops or the pesticide protections, but still really valued by beekeepers. Those were kind of the main findings for this study, which I think can really help beekeepers and growers make some of their pollination decisions.

Jamie



I was going to say, I was thinking about all kinds of applications when you were talking about that. It's really quite fascinating, which is good because that's the next series of questions we have for you. And mine is, given everything you know, and I know this is all relatively new, but given what you know, what are some recommendations you can make for beekeepers based on your findings?

Dr. Brittney Goodrich

There are a lot of different recommendations. I think that one of the biggest ones that I have for beekeepers is especially related to the state of the almond industry the last few years. So almond prices have been a little lower than they had -- well, I don't want to say historically, but they've been lower in the last five years than they had been the prior five years before that. Almond growers a lot of times are looking for any way they can to sort of cut costs and pollination is actually one of their biggest expenses every year. So, it's rivaling harvest and water costs. So, I know that growers really want to cut some of their expenses. I think, as a beekeeper, you can have a mutually beneficial conversation where you say, OK, you want to pay less than \$200 a high for your colonies for pollination. What can you do for me to get to that kind of discount? So, I mean, we just laid out a couple of things. If you can protect my bees from pesticides, I'll give you an X dollar per colony discount. If you can plant some bee friendly cover crops, I'll give you a \$4.00 discount on your colonies, or prepayment. Or there can be a lot of other different options for beekeepers. Even having, if there's an extra area that you can have to stage your bees and go through them once you've gotten to California before you put them in the orchards. Or a big thing that's happened in recent years as well is colony theft, right? If you have locked orchards as a beekeeper, you may be willing to kind of accept a lower pollination fee to have that security of locked orchards compared to a different one. So thinking about all of these mutually beneficial contract components that you can have and you can add in to make sure that your grower is happy and you're getting what you need to out of your pollination agreement as well.

Amy

So that leads me into the last question that we have for you. To have that mutually beneficial agreement, what recommendations do you have for growers?

Dr. Brittney Goodrich

Yeah. So, I would say it's a similar conversation with growers. It's about finding things that are mutually beneficial. And I often stress to growers, you are demanding virtually 100% of the colonies that commercial beekeepers are providing. So, we have seen almond acreage maybe -- we haven't really seen it decrease overall yet, but it has definitely slowed and started to level out. Despite that, you're still demanding almost all of the honey bee colonies. So, you're not going to see substantial decreases in pollination fees anytime soon.



So, if you start demanding lower pollination fees, chances are you're going to get what you paid for. You may get really weak colonies that are not going to pollinate your almonds as well as they could be, especially in years when it's raining. Growers really need to think about long term. You need your beekeeper to be viable. You need a reliable beekeeper that you know is going to continually supply you from year to year. So, incorporating some of these aspects that are beneficial for the beekeeper is a way to cut costs for you, but also in a way that makes sense in the long run, both growers and beekeepers. And you really need to communicate with each other to figure out what's going to be the best system for you.

Amy

So, Brittney, I'm interested to know, and I think our listeners would love to be able to read some of the methodology, some of the results and just the findings from your study. Is there a place that they're able to find this information to take a look at it again?

Dr. Brittney Goodrich

Yeah, so the study itself was published in Ecological Economics, and like many academic journals, you often have to pay for a subscription. So, that's a little unfortunate. But you can always e-mail me to get a copy of the journal article itself. Otherwise, I've published some of the main findings about the pollination discounts in various -- I do an almond pollination outlook just about every year. So, I put them in various places. So, I think the most recent one is a West Coast Nut publication coming out soon. I think it's available for free. You can just Google West Coast Nut and it'll be in the February 2025 issue and that will have the findings on the discounts for the various clauses that we found. Or if you just go to my personal website, brittanygoodrich.com, I have all of the different almond pollination related resources for both beekeepers and growers. So, you can go there and find links and information as well.

Amy

Absolutely. So, what we'll do is probably take those links and we can add them to our additional notes section of this podcast segment, that way our listeners can just find it with this episode as well.

Dr. Brittney Goodrich

Awesome, that sounds great.

Jamie

This is really fascinating. Brittney, is there anything else you'd like to add about your research? Any other take-home messages?

Dr. Brittney Goodrich



I think we covered pretty much everything.

Jamie

Well, great. I really appreciate you joining us on the podcast. Again, I know if you're listening overseas, you're thinking of pollination, almonds, etc., but this is a really big deal because almonds really drive a lot of what we do here as commercial beekeepers in the US, and I'm sure wherever you're listening, you probably have a crop or two that's doing the same. So, Brittney, it's really cool to see you looking at it from a dollars and cents perspective and how growers and beekeepers can both win as they think through what they're willing to concede as they develop pollination contracts and these pollination relationships.

Dr. Brittney Goodrich

Yeah, and I guess that is something that I did want to add because I'm talking about almond pollination, which is the Super Bowl of beekeeping. It's the biggest pollination event in the world, but there have been studies showing that worldwide we're increasing our dependence on managed pollinators. There are pockets of pollination markets everywhere that could benefit from knowing about these different contract components. And maybe they're not paying, you know, \$200 per colony, but they're still just as important to the grower in terms of crop production and then protecting bees while they're in different crop settings. So, this is definitely widely applicable beyond just almonds, beyond just the US, what we learn in almonds can be applied to other systems as well.

Jamie

Well, Brittney, I appreciate your research, and I thank you for the time that you spent sharing it with beekeepers. It's exciting to see what you've done, and I look forward to seeing what direction you take this.

Dr. Brittney Goodrich

Thanks, it's been fun talking to you all.

Amy

Jamie, I know our listeners know this, but they probably have survey fatigue, right, with everything that we put out. But it's so interesting. You know, personally, I really like honey bee research, of course, but then they're like all these other departments and all these other specialists that are out there pulling together data that is directly related to our stakeholders, right?

Jamie

100%. We often think the bee scientists, here's what they can do for us. Why aren't they doing more? They should do more. But honestly, there's a lot of specialists out there, just like you



mentioned, who can bring a lot to the table even if they don't have a background in bees. Brittney, on the other hand, did have some background of bees. She did some graduate work with it, but you know, she's doing a lot of forward-thinking work that's unrelated to getting into a hive and managing Varroa, right? And it's refreshing. Like you said at the beginning of your statement, it is survey based. She has to ask beekeepers to complete surveys and then analyze their data. And I know beekeepers have been inundated with surveys more now than ever before in the future. And all of that has to do with 2006, introduction to colony losses. And they get surveyed and surveyed and surveyed and surveyed. But, in my opinion, these surveys have radically transformed what we know about the beekeeping industry, and it's so useful to see, in this particular context, another way that a different field of research can benefit beekeepers directly.

Amy

Absolutely. So, beekeepers and non-beekeepers out there, when you receive a survey from us, know that the data collection will be used to inform and hopefully be great for the industry overall. So, I'm not going to beg, but please fill out the surveys when we ask you to. So with the economic side, Jamie, putting numbers, you had mentioned this, but basically putting a number or value on things, you know, let's talk about that a little bit.

Jamie

To me, you know, everybody has something that they stick on when someone says something. But this is what I stuck on when Brittney was talking, it was this idea that management decisions or willingness to compromise all had a monetary value assigned with it. So, sometimes I think, as a beekeeper, I do what I do because I was told to do what I do by my mentor, and I might have learned a few things here and there. I heard someone say it. But often times there's not data behind what we do. If we could tie our management decisions to some sort of economic reality, like, if I cut queen cells to control swarming, this is what it pays off. If I split colonies to control swarming, this is how it pays off. If I add supers to control swarming, this is how it pays off. Well, we don't have those data, so we're kind of left making management decisions best suited to us. Well, Brittney is looking specifically at pollination. What do beekeepers say, I hate to use the word, but willing to concede to growers in pollination contracts. So, if growers are to put these resources out, are beekeepers willing to take a few dollars less in pollination contracts? This is cool information to me because it's hitting both sides. What matters most? I mean, beekeepers are not, I mean, I hate to say it this way, it sounds very capitalistic, right? But beekeepers aren't just pollinating almonds because they're altruistic and want almonds to be available for all of us to eat. They have to make money. Well, growers aren't just bringing in beekeepers because they're trying to save the bees. They have to make money. When you put management decisions, when you put contractual language tied to a dollar and cents approach, it helps people and their bottom line. And it's really exciting to see Brittney do this. It makes me think, where else can this kind of economic analysis benefit beekeepers beyond just pollination contract language and



things like this. And that's why we need economists. That's why we need people like Brittney doing just this type of research.

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. Today, we are talking all about splits. So, today's Q&A, all three questions -- splits, thanks to our friend Bill in Tennessee. All right. So, the first question that we have is just do you split your hives every year?

Jamie

100% no. I don't do it every year, but I really need to give a huge caveat here. Before we think about splitting our hives every year, a more important question is what are your beekeeping goals? Why is that an important question? Well, that's going to dictate whether or not you split your hives every year.

For example, if I use my bees to pollinate crops and make money from that, then I'm going to want as many hives as I can get, colonies as I can get. One of the best ways to get more colonies is to split your hives. If you want to produce honey, similar logic. If you've reached a number of colonies that you are happy staying at, then you wouldn't split your colonies because you don't want more. Now I can chase this forever, but the real kind of purpose behind what I'm saying is you've got to ask yourself some questions. I'm going to do it as if I were asking myself, am I at the number of colonies that I want to be? If yes, then I would not split. If no, I would consider splitting. If I had high colony losses, especially over winter, I might consider splitting.

But it's not just something I do because I can. I'd do it only if I need to. Do I want more colonies? Did I have high losses? If the answer to both of those questions is no, then I would not split my hives, no.

Amy

As soon as I asked the question, I'm like, that was a yes or no question. That could have been like a 10-second question.

Jamie

So, then it would be definitely, no, I definitely don't do it every year.

Amy

OK. So, the second question I know you had just mentioned it just depends on what your goals are in beekeeping. But if you split a colony, will it impact honey production?



Jamie

The answer is it depends. It depends on when you make that split. So, let's just think about this through the year. Obviously, you're not going to split in winter, so we're going to take that quarter of the year off the table. A lot of people really like to split colonies when they're coming out of winter and going into spring. And it's funny, the first question was, do you split your hives every year? And my answer is no, I don't split them every year, but I'm actually going to split them this year, and I'll tell you why, and it feeds into the second question. In Florida, where I live, we start getting meaningful bloom in mid-February.

I know that seems early to a lot of you in the Northern hemisphere because -

Amy

We don't take a break here.

Jamie

Yeah, we just don't take a break. So, my personal colonies have been growing quite well the past three or four weeks. In fact, I looked at it last week and all three of them are very strong. And I'm like, gosh, I'd love to be able to split these. So, a lot of people want to split their colonies coming out of winter, going into spring, because that is a time of year that colonies just want to grow anyway. If you've got good nectar and pollen flow, the bees are growing, Mother Nature's going to promote the conditions that you will want to split the colonies.

Now, I don't have a significant spring nectar flow where I live, but if I wanted to move my bees, that significant spring nectar flow, would it be somewhere around mid-April. For the purposes of bringing all the listeners to the same page as me, it's now the first week of March. So, I have six weeks before the main nectar flow. Therefore, I can safely split my colonies now and get my production colonies back up to speed over the next six weeks to be ready for the spring nectar flow. But if it were the first week of April, and I was saying, oh, I want to split, then I am splitting too close to the main nectar flow, and you can bet I'm going to lose honey production. So, splitting in spring is all about getting out well ahead of the spring nectar flow, four to six weeks, so that your production colonies have time to regain their population and be ready to make honey. Now, that's if you want to make honey.

If you don't want to make honey and you only want to make splits, then early spring through the spring nectar flow is split season because Mother Nature's giving you all the pollen and nectar that your bees can handle, and you can split, split, split, split, split. And at the end of the major nectar flow, you could have a lot of colonies for sale or for beefing up your own numbers. But the questioner says, will it impact honey production? The closer you split a colony to the main nectar flow, the more likely it's going to impact honey production. Now, a lot of commercial beekeepers will split well in advance of the main nectar flow as part of swarm control. But I'm



going to toss that aside. What about splitting in summer? Well, your main nectar flows over. So what honey production are you worried about compromising, if you split in early summer or midsummer? Maybe you do live in an area that gets a summer nectar flow. But if you don't, which most people I would say don't, then splitting after the main nectar flow shouldn't cost you honey production. Just know if you split after the main nectar flow, you're going to have to be the nectar flow for those splits that you've made. You're going to have to feed those bees if there's no incoming nectar, and the same is true if you elect to do it late summer and early fall. A lot of folks like to make late summer, early fall splits because queens are available. Maybe then you can have these young, healthy colonies going through winter and ready to boom next year.

But to make a long story short, if you split your colony, it will only impact your honey production if you do it two to three to four weeks right before the major nectar flow.

Amy

Sounds good. All right, so for the third question that we have, you know, this is I feel like I'm thinking back to when I first became a beekeeper, how intimidating everything is. It seems like pretty overwhelming the management that you have in your colony. So, as a beginner beekeeper, you split a hive, right? You split this colony, and then you're trying to figure out how to split first of all, and then you split it. But then, what do you look for to make sure that your splitting was actually successful?

Jamie

Well, there's a lot that goes into this, so let's just talk about the parent hive first, right? The one from which I'm going to make the split. Now, I realize a lot of you out there keep different hive styles. I happen to use 10-frame boxes, so I use a 10-frame deep Langstroth as my brood chamber, then I have a queen excluder, and then I have a medium super, 10-frame medium super full of honey. That's my standard hive configuration. One deep brood box for the queen, one medium super of honey for the bees. That's my standard configuration, but some of you may use 8-frame boxes. You may use double deeps, you may use triple mediums. There are a lot of standard configurations from which you can choose. So, rather than say, with my standard configuration, here's what I look for, I'll make some big generalizations. When I want to split a colony, I like about 80% of the combs in the brood area to contain brood. So, let's just use a couple of configurations as an example.

In my 10-frame deep brood chamber, I would want to see a lot of brood on 8 frames. If I did double deeps, I might want to see a lot of brood on 10 to 12 frames scattered amongst those two double deeps. If I did double mediums as my brood chamber, I might want to see sixteen of those 20 frames having brood. So, basically 80% of the frames in the brood area need to have brood. And then I would say 100% of the frames in the brood area and probably 80% of the frames in the rest of the hive need to be covered with bees.



So, all the frames in the brood area and then 80% of the frames in the rest of the hive need to be covered with bees. If I see that much brood and I see that many bees, then I know that the colonies, first of all, I can split out enough for the split to survive, but I can leave enough for the parent to survive.

Now, let's say I've made that split. What are some things that I'm looking for within the next couple of weeks? There are so many ways to answer this question, but let's just say I left the queen in the parent hive and the split is queenless. Are they making a queen? Did I give them a caged queen? If I did, did they release her? If they released her, is she laying eggs? So, depending on what you did with the queen, you're going to have to consider that. But assuming you've got a free running queen in the split, do I see eggs? Do I see young larvae? Are the bees coming and going from the split at the same proportion that I see bees coming and going from full-size colonies? Are they collecting pollen? Are they pulling wax comb? If I give them frames of foundation, do I see any unchecked diseases and pests? If I move the queen over, do I see a lot of queen cells? If I do, that might indicate that they've lost their queen and there's a problem. I want to see that split functioning like a full-size colony and in growth mode. Those are the things that I'm looking for, both from the colony I might want to split and from the split after I've made the split.

Amy

All right. Well, there you go. That's how you can identify whether your split was successful. For our listeners out there, you know how to send us a question for the Q&A segment. Either send us an e-mail or messages on one of our social media pages.

Hey, everyone. Thanks for listening today. We would like to give an extra special thank you to our Podcast Coordinator, Jeffrey Carmichael. Without his hard work, Two Bees in a Podcast would not be possible.

Jamie

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