
Living Homegrown Podcast – Episode 147 Gardening With Native Bees

Show Notes are at: www.LivingHomegrown.com/XX

Paige: You know, I think one of the great things from doing all this research was I found that this is an area of conservation where I know I'm having an impact. You can give money to things and that's good, and there's other things that you can do, but let me tell you, you can go out and you can plant flowers, and then you'll see them come, and it's like, "Look at that." I am helping some of the local bees in the area or you put out some bee condo, above ground condo with little holes for it and the bees come. It's really enjoyable to know that it's like I'm actually helping the bees in the area and it's so easy to do.

Theresa: This is the Living Homegrown Podcast, episode 147.

Announcer: Welcome to the Living Homegrown Podcast, where it's all about how to live farm fresh without the farm, to help guide the way to a more flavorful and sustainable lifestyle is your host, national PBS TV producer and canning expert, Theresa Loe.

Theresa: Hey there, everybody. Welcome to the podcast. I'm your host, Theresa Loe. This podcast is where we talk about living farm fresh without a farm. That includes organic small space food gardening, canning, and fermenting the harvest and artisan food crafts like baking your own bread. It's all about the different ways that we can live closer to our food and take small delicious steps towards living a more sustainable lifestyle. If you'd like to learn more about any of these topics or my online courses, my coaching, or my living homegrown institute, which is my membership site, then just visit my website livinghomegrown.com.

Theresa: On today's episode, we are diving into bees, not literally, don't panic. We are going to talk all about native bees specifically. Now, I have covered bees on the podcast in lots of different ways. I have had beekeepers come on and talk about honeybees and I have had native bee experts come on before and talk about the mason bee. Today, I am bringing on Paige Embry who wrote the book, "Our Native Bees: North America's Endangered Pollinators and The Fight To Save Them."

Theresa: Now, this is important stuff as food gardeners. Bees are imperative for us in having a good crop. What Paige talks about in this book I found absolutely fascinating. I wanted to bring her on the show to really explain to all of us about how bees have been used in agriculture and are currently being used in

agriculture. I'm talking about the honeybee. Also, even how bumblebees have been used and managed agriculture, and how native bees in general are really getting a bad rap. They have ended up on the short end of the stick. They are not talked about. People only talk about the honeybees and the plight of the honeybees when in reality, native bees have not been studied and it looks like they have a lot more hurdles to overcome than the honeybee.

Theresa: I wanted her to come on, because as gardeners, we can hugely make a difference in helping to preserve and support native bees, who happen to be better pollinators in most cases than the honeybee. I know that's odd, but it's because the honeybee is a managed bee, and it's what's always been used in agriculture here in America. Honestly, the native bee does a better job. I found this all really, really interesting, because we can do things in our own backyard to make a difference for the native bee. This is really important information. I think you'll find it fascinating or as fascinating as I did.

Theresa: Before we start, let me first tell you a little bit about Paige. Paige Embry is the author of, "Our Native Bees by Timber Press." Her multiyear obsession with the lives of America's native bees began with a gardening epiphany about honeybees. You see, honeybees came from Europe with the colonist and they can't pollinate tomatoes, but certain native bees can. She started on a quest to learn more. She has written for Scientific American, The Food and Environmental Reporting Network, Horticulture Magazine, and many others. She lives gardens and stocks bees in Seattle, Washington. You can reach her through her website, paigeembry.com.

Theresa: Now, as always, I will have in the show notes for today's episode everything that we talk about including a link to the citizen scientist website that Paige mentions in today's chat, and to her book *Our Native Bees*. Everything will be right there for you. Now, before we dive into the interview, I just want you to know that today's podcast episode is brought to you by my Living Homegrown Institute, which is my monthly membership site where you can access an entire library of monthly masterclasses to help you live a farm fresh lifestyle without the farm. Everything from how to grow tomatoes and save seeds, to lessons on how to ferment food.

Theresa: Now, I believe that living an organic farm fresh lifestyle is really a journey and learning. Just as we learn different skills such as food fermentation and food growing, and even critter keeping, there are three distinct stages of growth. We start out being curious. We go into experimentation, and eventually we grow into mastery of these different skills. Now, if you're looking at creating a farm fresh lifestyle for yourself, and you're curious where you fall on the growth scale on these different skills, I've got a free resource for you. It's my farm fresh success path that my students use inside my learning institute. It will help you decide where you are on your own journey, the characteristics of that stage,

and some specific action steps and information that you can take to get to the next level.

Theresa: To get to the success path PDF, just go to my website livinghomegrown.com/path, that's P-A-T-H, and you can download it there for free. Okay, so are you ready to learn all about native bees, what they do for our garden and what we can do for them? I knew you were. All right, let's dive into my interview with Paige Embry, the author of *Our Native Bees*.

Theresa: Hey Paige, thank you so much for coming on the show today.

Paige: Thanks for having me.

Theresa: I really was fascinated by your book, and the photos are incredible. It was just like you could geek out on the science, but also it was just fascinating from both a food consumer and a food grower, exactly how important bees are and especially the native bee. I thought we should probably start out conversation with you explaining what exactly is a native bee.

Paige: A native bee is a bee that evolved right in a particular place. It's different. There's 4,000 of them in the US and Canada, and honeybees are not one of them. Honeybees are bees that came in from Europe with the early colonist. Some of them escaped and got out into the wild, so they're considered to be naturalized bees.

Theresa: Yeah, so that's really important, and I think people don't realize that, yeah the honeybee really wasn't meant to be here. It didn't grow up here. We brought it in. So, that's the difference. A naturalized bee is like the honeybee who has escaped and gotten out into the wild, and now has naturalized here. The native bee has been here a longtime, and there's a lot of different ones. What exactly got you so interested in native bees or just bees in general?

Paige: I have been a gardener for decades. I thought I was a pretty well-educated gardener. Then about five years ago, I learned that honeybees can't pollinate tomatoes. I couldn't believe I hadn't already learned that particular fact. I thought maybe I was just doomed and I missed that day of school, whatever. I started asking around and almost nobody else knew that honeybees can't pollinate tomatoes. It's like, this is something that it seems like gardeners should know. Honeybees can't pollinate tomatoes, but bumblebees and some of these other native bees can. I went out to learn something about some of those other bees, and I fell completely in love, because bees are so amazingly different in both how they look and how they behave, and I had had no idea.

-
- Theresa: Yeah. I only learned just a few years ago myself, and I was also very surprised about that. Let's talk about that a little bit, because people might be saying, "Why? Why can't a honeybee pollinate a tomato?" Can you explain why?
- Paige: Yeah. So, if you think about a flower, let's say a lily flower, there are the anthers and coated on the outside, you will see the pollen. We all know this, because it falls off all over the counter when you bring them into the house. A lot of plants do it that way, but not tomatoes and a number of other kinds of plants. Instead of having the pollen on the outside of the anthers, it's inside. There are these little tiny holes, and so the bee or insect has to shake the pollen out. What happens is like for the bumblebee, they'll grab a hold of the end of a tomato flower with their mandibles, which are part of their mouth parts.
- Paige: They curl around the end of the flower and then they shiver their wing muscles at a specific frequency, and it just shakes that pollen right out of the little holes like shaking salt from a salt shaker. Honeybees don't know how to do it.
- Theresa: That is so amazing. That's really funny. Yeah, so bumblebees are very, very important to tomatoes. Bees in general, but especially native bees are important to a lot of other foods that we consume or even grow. What are some things that really do well or even better with bees for pollination?
- Paige: A lot of our food crops benefit from having bees and potentially other animals pollinating them. So, apples are one. Apples have pollen that's not transported by the wind and they need cross-pollination so they can't self-pollinate themselves. Somebody's got to move that pollen from one plant to another. Apples really need bees and other pollinators, but there's also cherries and strawberries benefit from it, blueberries benefit from having other animals come, the cane berries benefit from it. The list goes on for a lot of our fruits. There's some things like peas. Those are self-pollinated.
- Paige: There are fruits and vegetables that don't need bees, but many of them you get not just more fruit, but sometimes the fruit is bigger and better when the bees come to visit.
- Theresa: Yes, and I was reading in your book about some of the different foods like peaches, and blueberries, and avocados, melons, but what really fascinated me probably because I live in California, I'm in Los Angeles is when you talked about almonds and pistachios. Now, I know because I drive through that area how massive those orchards are where they're growing the almonds. You talk in the book about how honeybees are what are typically used commercially for doing the pollination. I wanted a first touch on how honeybees are being used before we talk about the advantages of the native bees.

-
- Theresa: Could you talk a little bit about what exactly they do in order to get all those almond trees pollinated every year?
- Paige: Yeah, so there are, at the moment, about a million acres of almond trees in California. Each of those acres needs generally speaking two colonies of honeybees to pollinate the almonds. Almonds bloom in February, so there aren't very many native pollinators out. So they really, really need honeybees at the moment to pollinate those trees. If you figure there's about 10,000 bees and a honeybee colony that they bring in, and there's a million acres, and they need two boxes per acre, that's a good three quarters or so of all the honeybees in the country come to the almond field in February to help pollinate those almonds.
- Paige: Almonds are like apples and that the trees need to be cross-pollinated, so you've got to move pollen between two genetically different trees. If there weren't the honeybees coming, there would essentially be no almond industry, because they wouldn't be getting anywhere approaching enough almonds by the few little native pollinators that are out at that time of year.
- Theresa: When they're bringing this in, so they're basically renting the bees. So there's beekeepers that just bring them in and they have contracts with the farmers, and so they bring in their bees, release them into the fields, and then they leave again with the bees.
- Paige: Yeah, exactly. That's a big part of the beekeeping business nowadays. Some people make their money, I'm assuming there are some people who may still make their money just from honey, but for the most part, beekeepers make a lot of their money from pollination services and the different crops tend to pay different amounts for those pollination services. Because there are so much need in the almonds, and it's so early in the year, they pay really well. After the bees are done, because the almonds bloom for a couple of weeks, after that happens, they may go someplace and just hangout for a while till they go to their next crop.
- Paige: They may head off to cherries, or apples in the Pacific Northwest. Some may head out to New York for the apples there or they may stay in California and do some crops there. These bees can travel all over the country pollinating one crop after another, sort of following spring as it happens across the country.
- Theresa: Wow. I know that in the book you mentioned that the honey from the almonds was not real flavorful, which surprised me also. It's not like the honey we normally know and love.
- Paige: No, it had a bitterness to it. Again, a beekeeper had told me when I brought it up he's like, "Oh yeah, almond honey is just for the bees."

-
- Theresa: That's funny. When you were out in the fields writing, when you were getting ready to write your book and you were starting to do your research, and you were out in the fields with the different bees that are coming and going and the different beekeepers, you talked a lot about how the spraying that was going on in the almond fields, you were really shocked that they were spraying when the flowers were open. Actually, that really shocked me too, because I thought that everybody knows you should not spray when the flowers are flowering, because you'll kill the bees.
- Theresa: It was really interesting though what you were talking about what they were spraying the insect growth regulators and what happens to the bees when they do that. Could you talk about that? Because I think it's important for everyone to understand.
- Paige: Yeah, so again, pesticides have a lot of different ways, mechanisms that may be used to kill the insect that they're targeting. One of those mechanisms, and again, I am not a pesticide expert. One of those mechanisms targets the juvenile stage. When you think about an insect and going through metamorphosis and it varies from insect to insect, but they're sort of you think egg, larva, maybe a pupa, and an adult. There could be insecticides that kill adults and there could be other ones that target those juvenile stages. That's where that insect growth regulator fits in.
- Paige: If you can abort the insect before it reaches the adult phase, if you're worried about the adult eating your plants, well, you're in good shape, because they never even get to the adult phase. If you can stop things when they're in their, one of their earlier phases, and so you could be targeting a problem insect, but bees are insects too. They have an egg, a larva, a pupa, and adult, and so if they bring those insect growth regulators back to the hive, it can cause lots of problem with larva in the hive.
- Theresa: Yes, so when people would be spraying they are thinking, "Oh well, there's no dead bees all around. It's because it really just affects the brood that's coming on next." I was really shocked that they do that, and I would be very upset if I was a beekeeper and they were spraying while my bees were out there. That was interesting to me. Now, your book is about the native bees and I had always known that native bees are considered better pollinators than the honeybee. That's why I wanted to talk about how massively we use the honeybee for agriculture. Is it possible if a native bee is a better pollinator to use it instead of the honeybee?
- Paige: There are surprisingly few managed bees, and most of the managed bees that are out there have been developed for crops that honeybees can't pollinate like tomatoes, greenhouse tomatoes for example. There are people who are working on developing a bee called, "Osmia lignaria," the blue orchard bee or

orchard mason bee. It goes by a number of names. It is a bee that actually pollinate some of the same things that honeybees do. It's a completely different kind of bee and so figuring out how to manage it so that you can get enough of them to the fields, to make a difference has been the work of decades. Those bees, the orchard mason bees, if you caught a individual bee basis, they are much more efficient pollinators than honeybees.

Paige: People have been managing honeybees for a longtime, millennia, and know how to manage them to some extent. The great thing about honeybees is you can deliver huge amounts of them to a field exactly when you want them, and even if they aren't as efficient, if you bring enough of them in, they work. That's part of why honeybees work so well, but it's again, some other people are trying to develop some of this, again, the orchard mason bee is the primary one.

Paige: Actually, the two bees together often having more than one kind of bee in a field improves pollination. You may not want to replace honeybees with orchard mason bees. From a pollination point of view, it might be really nice to have both of them or even a third or fourth bee and they're helping out with the pollination.

Theresa: Yeah, that makes sense too. Let's talk about what exactly makes a native bee a better pollinator. What is it that they do differently than a honeybee?

Paige: It's going to vary from flower to flower what bee is a better pollinator. There's going to be some native bees that aren't as good as honeybees, and there's going to be some bees that are better, and it's going to depend on the flower. Again, back to the orchard mason bee, what makes them such good pollinators is if you look at a honeybee that's carrying pollen, you'll see that the worker bee, she's the one that's collecting the pollen, she collects the pollen on her hine legs and she wets it down with saliva. These tiny little packets that hold together really well.

Paige: If you look at an orchard mason bee, they carry pollen dry and hair on the underside of their abdomen. You could see how it rub off really easily. The other thing is that for honeybees, they have workers who go out and they're just about collecting nectar on that one. Others that are collecting pollen, well, the nectar collectors may or may not even come into contact with the pollen so clearly. They're not doing any pollination whereas a mason bee female, she is collecting pollen and nectar from the same flower at the same time. She's just walling around in the flower, collecting everything, and moving onto the next flower.

Paige: Mason bees will go out when the weather is worse colder, which again for these early spring crops like a lot of our orchard fruit, that's really important, because they often only bloom for a few weeks. If you miss several days, because you've

got honeybees and the weather is a little too cold for them, you're really losing some pollination whereas the mason bees will be out there when the weather is colder, still doing their pollination. You can in almonds, you can replace one hive of honeybees, which has about 10,000 workers with 400 female orchard mason bees. That's how much more efficient that particular native bee is over a honeybee and almonds.

Theresa: Wow, that's a lot. That's a huge, huge difference. The photos that you had in the book, there were some pictures where the bees were just covered in pollen, and you said something about they can get an electrostatic charge, so when they plo down into the flower, it just sticks to them?

Paige: Yes. Again, bees and flowers it's like they're made for each other. Again, you've probably seen some of the photos that show, I think it's ultraviolet photos, because bees have different vision than we do. The flowers look different often to bee eyes and there'll be little landing strips and things. Flowers are working hard to pull those bees in.

Theresa: I think it's very interesting how a native bee is collecting nectar and pollen at the same time. She's just a very efficient worker. She's doing everything at the same time. That's so interesting. What about the way they live? A native bee is a solitary bee where a honeybee is in a colony?

Paige: It's actually really cool. There is this whole range of ways that bees live. At one end, there are the honeybees, which are social. You've got a queen and you've got multiple generations of her daughters living and working together. For a honeybee colony, that colony can last from one year to the next. It's perineal. It's the only bee in the country that lives like that. There are other social bees in the country and bumblebees are probably the best known one. You've got a queen, and you've got workers, but there's maybe dozens to a hundred or more. Their colony is only annual. At the end of the warm weather, everybody dies, but next year's queen whose already been impregnated. She goes off and finds a little hole and sleeps out the winter.

Paige: They're social, and there are some other little bees that are social. Then there's this whole spectrum in between where there what are called, "semi-social," and then you get to the solitary bees, which many of the native, well, most of the bees in the world are solitary. That means that when they emerge, they usually mate. The males and females mate, and then the males die. Then the female spend the rest of usually about a month gathering pollen and nectar putting it in a hole either above ground or below ground and laying eggs on it. That's what she does. She does it always all by herself.

Paige: She doesn't have any daughters helping her. She is not alive when her offspring emerge. She lives her entire life alone again in a hole somewhere in the ground

or maybe above ground like a bee to burrow or something like that. That's probably at least 70% of the bees are solitary bees.

Theresa: I didn't realize that bumblebees were social. So that's surprising to me.

Paige: Yeah, that bumblebee queen who sleeps out the winter in a little hole somewhere, she'll emerge in the springtime desperate for food, because she's been living off her fat stores. She's really looking for some of those spring flowers when she comes out. Then she will look for a bigger hole, one big enough to hold her colony. Again, a dozens, or a hundred or more bees, and she often likes old rodent holes. Then she will go in there, she'll lay some eggs, she'll go out, and she'll bring back food and nectar to feed all the babes. She's working really hard, and I'm sure she's greatly relieved when those bees are adults and ready to go out and start doing all the foraging and she can just stay home and lay eggs.

Theresa: I'm glad we're talking about bumblebees, because you talked in the book about how bumblebees have been used in greenhouses. That was something I didn't realize for the pollination of tomatoes. We've talked about how bumblebees are so great at pollinating tomatoes, and so commercially, bumblebees have been used in a managed way for greenhouses, but this has actually caused a lot of problems for the other native bees. Could you talk about that?

Paige: If you have tomatoes outside, some of that pollen gets shaken out of the little holes just by wind or things bumping against it, but at greenhouse, you don't have that, so you really need pollinators. The tomato growers were really happy when somebody figured out how to manage bumblebees back in the 1980s, because they didn't have to hand-pollinate tomatoes, or put them on shake tables or all sorts of other things that they did. The people who figured that out were in Europe. They weren't allowed to ship bees from Europe into the US, and so there were two kinds of bumblebees that were American bumblebees that were developed to be managed.

Paige: One lived in the eastern part of the country and one in the western part of the country. Some of those bees, the queens, went to Europe to get this special wake up treatment, because again, a lot of times when you want greenhouse tomatoes in the winter and that's not when bumblebees are naturally awake and making babies. So they would get this special wake up treatment and then the young colonies would come back and go into the greenhouses and pollinate, but some of them got out.

Paige: Not long after that, there were a number of bumblebees species. There's 46 bumblebees species in the US and Canada. A number of bumblebees species started seeing really sip declines and although they are still not sure from a scientific point of view, they think that there may have been a disease or they're

investigating if there was a disease that may have come back from Europe with some of those bees and some of our local bees were not well-equipped to handle it. One of the bees that was hit by this was put on the endangered species list about a year or so ago. There's another bee out in Oregon that nobody has seen since 2006, and it may be extinct.

Theresa: Yes, it's a delicate balance with any kind of managed, agriculture using bees and introducing bees that maybe wouldn't be in our particular area or coming from another area. I think one of the things that I got from your book was really how important it is for us as gardeners to help the bees out in any way we can, because there's so many native bees and they don't get the star treatment that the honeybee does. That's one of the reasons why I wanted to have you on was I wanted people to understand what huge value they bring to our agriculture out in nature and even possibly in our food production going forward.

Theresa: In our own backyards, they are pollinating what we're growing. What are somethings that we can do as gardeners to help support the native bee?

Paige: There's the pesticide piece that we talked about some. One of the things that I learned that I guess surprised me is if you choose to use some pesticide, you will hopefully look at the label and see it's like, okay, it doesn't say anything about it being bad for bees. That doesn't necessarily mean that it's not bad for bees, for a couple of reasons. One of the things, historically it's changing a little bit, but historically when they were testing pesticides to see if they were hazardous to groups of animals, they don't test all of the animals in that group.

Paige: For bees, they would test only adult worker honeybees. They didn't test the larva or the males, or the queens, or any of those 4,000 species of other bees, which are really amazingly different from each other. They fall into a bunch of different taxonomic families, which means that a bee in one family is taxonomically speaking is different from each other as like a bear is from a seal. They were testing only this one little bit of bee. It's like, well, maybe it's bad for some of the other bees. Sometimes if you mix more than one pesticide together, there are some strange effects that go on that. Some of the things that are considered inert in pesticides like the stuff maybe that helps the pesticide stick to a leaf might be harmful.

Paige: If at all possible, you just avoid pesticides and then you're safe. If you do for some reason, again because sometimes with food crops, it's like, I do need to spray that fungicide or what have you. You want to not spray ideally when the plant is blooming at all, and certainly not during the daytime when the bees are flying. That's one piece. Another piece is what everybody likes to do who's a gardener. It's like, "Let me plant flowers for the bees," and that's great. It's important to plant for the whole season, because think about those poor little

bumblebee queens coming out after sleeping through the winter, and they're desperate for food, but nobody's planted really early spring flowers.

Paige: I live in Seattle. Sometimes I'll see the bumblebee queens and the krauroses. Again, having plant sort of span the season, because there are bees that come out in spring, but there's some bees that don't come out till late summer. Then some of the bees like bumblebees and honeybees, they're still looking for food well into the fall. That's another piece. The third piece is these bees live in all sorts of kind of places. 70% of them live underground and 30% live in holes above ground. You don't want to have your garden, I hate to say this, mulched in 4-inches of wood chips everywhere, because how can the poor bee get into the ground to make her nest?

Paige: The other thing is some of the bees like to nest in things like pithy stems, I think raspberry canes or elderberry. If you are a good tidy gardener and you go out there in the winter to clean up, if you send some of those canes off to be composted or you burn them, there may be bees living in there. They would come out in the spring or the summer and pollinate your plants, but you've disposed those stems. You can just stick them off in a corner somewhere. Yeah, so the bees can emerge whenever the time is right for them.

Theresa: Really good point, and it's actually a good thing, because you're just telling us we don't have to clean up.

Paige: Exactly.

Theresa: Yeah. I've talked about that before on the podcast about how there's a lot of insects that will over winter and so it's actually a good thing to not clean everything up for winter, and just let everybody come out when the weather warms up. That's really good. That was really surprising also about the 70% underground. Wow, that's a lot, 70% underground of all the native bees.

Theresa: Now, I know you talk in the book about a citizen scientist project. A lot of my listeners might not know what that is, but I thought this was a good time to mention it, because it is something else that we can do in our backyards to help with the native bees and the scientists who were trying to get more information about them. What is the Great Sunflower Project?

Paige: It's a project that was started by a professor at San Francisco State University around 2008. We don't have a good sense for how well our bees are doing in this country, because you have to gather a lot of information to know that. We don't really have a good baseline. She is hoping to use regular people to start gathering some of that data for how many bees are out there. So, she needed everybody to look at exactly the same flower and that as lemon queen sunflowers. All you have to do is you go to the Great Sunflower Project website

and get signed up. You get yourself some lemon queen sunflower, either plants or seeds, and get them on the ground.

- Paige: Then once they're up and blooming, you go out periodically and you count the pollinators that are on your flowers for a set amount of time. It can be whatever amount of time you can make yourself stand there and do it for. Then you enter the data into the Great Sunflower Project website, and it gives her ... You don't have to know, which bee it is or anything like that. If you do, that's great, but you don't have to. For this particular project, she's just trying to get a sense of, do there seem to be a lot of bees as many as one would expect in this area or are there not as many?
- Paige: It would cost astronomical amounts of money to pay scientists to go do this, but we can go do it in our backyard. It's a fun project to participate in and the website is very user friendly.
- Theresa: Yeah, this would even be great if you had kids and it would be a real educational piece for schools to do, which I would really encourage anyone whose teachers or if your kids are in a class where you have a garden on the school premises, I think that would be a fun thing for them to do too, and they could learn more about native bees and pollinators in general. I think it's really interesting also that they're using the lemon queen sunflower. For people who don't know, sunflowers are really attractive to bees. I think that's why they're using it, because they want to have something that would be the most popular type of flower for bee to go to.
- Theresa: What is it about sunflowers that make them so special to bees?
- Paige: There's teeny little bees smaller than a grain of rice. Then there's big old bumblebees. There's a big range in bee size, but there's also a big range in bee mouth parts. Some have long tongues and they can reach up into long skinny flowers like say Penstemon and get it the nectar, but sometimes on these short little tongues. Some of the flowers in the aster family like sunflowers, their nectar and pollen is going to be assessable to both bees that have long tongues or bees that have short tongues or little bitty bees or great big bees. It's an easy flower for bees to use whereas if you picked some ... There might be some other kinds of flowers, but it's like certain bees just can't access the nectar and pollen, so you're already limiting the number of bees that can visit.
- Theresa: Yeah, that's so smart that they did that. Paige, I thank you so much for writing this book. I think it's really just fascinating. It was a fascinating read for me as a gardener, but also just as someone who loves food to understand the importance of bees. Just enclosing, what would you like all of us as food gardeners to know about the native bee?

-
- Paige: I think one of the great things from doing all this research was I found that this is an area of conservation where I know I'm having an impact. You can give money to things and that's good, and there's other things that you can do, but let me tell you, you can go out and you can plant flowers, and then you'll see them come. It's like, "Look at that." I am helping some of the local bees in the area or you put out some bee condo, above ground condo with little holes for it, and the bees come. It's really enjoyable to know that it's like I'm actually helping the bees in the area and it's so easy to do.
- Theresa: It is easy. Thank you, Paige. Thanks so much for coming on. This has been awesome.
- Paige: I always enjoy getting to talk about bees, so thanks for having me on.
- Theresa: I hope you enjoyed that interview with Paige Embry, the author of *Our Native Bees: North America's Endangered Pollinators and The Fight To Save Them*. We really, really can make a difference in helping these native bees, and we didn't even go into a fraction of the different species, and some of the challenges that they are having. I wanted you to understand how native bees fit into the big picture, not only for our food crops, but in our own backyards. So, we can help a lot and it's very, very simple and easy. Doing something like the Citizen Scientist Projects is something that is so educational for our children and can be a lot of fun.
- Theresa: As always, everything that we talked about will be in the show notes for today's episode. To get to the show notes, you go to livinghomegrown.com/147 and everything will be right there for you. Now, as a reminder, today's podcast episode was brought to you by my Living Homegrown membership, which features an entire library of masterclasses to help you live a farm fresh lifestyle. If you'd like to get the free PDF success path that my students use inside my membership, just go to livinghomegrown.com/path and I'll have it there for you for free.
- Theresa: That's it for today's episode. I hope it gave you some new ideas and respect for our native pollinators, and maybe some ways that we can help them in our backyard. Until next time, just try to live a little more local, seasonal, and homegrown. Take care.
- Announcer: That's all for this episode of the Living Homegrown podcast. Visit livinghomegrown.com to download Theresa's free canning resource guide and find more tips on how to live farm fresh without the farm. Be sure to join Theresa Loe next time on the Living Homegrown Podcast.