
Living Homegrown Podcast – Episode 128

Making Hard Cider At Home

Show notes are at:

www.LivingHomegrown.com/128

Emma: But I've made ciders with everything from fresh-pressed, raw, organic apple juice, apple cider that I've picked up at the farmer's market all the way to the generic store-bought brand of cider so anything within that range is going to work and make you a good cider.

Theresa: This is the Living Homegrown Podcast, episode 128.

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 Living Homegrown Podcast. I'm your host, Theresa Loe and this podcast is where we talk about living farm-fresh without the farm. That can include preserving, small-space food growing, and just taking simple steps towards living a more sustainable lifestyle. All the different ways that we can live closer to our food, even if we have little or no garden space at all. If you want to learn more about any of these topics or my online courses or my Living Homegrown membership, just visit my website, livinghomegrown.com.

In today's episode, we dive really deep into making homemade hard cider. If you have ever tested hard cider that's like a craft's hard cider that maybe is made locally from a really small brewer, it can be an amazing flavor combination and if you grow some of your own apples or you live near somewhere where you can get unusual apples, I'm sure you might have been like me and

contemplated, "I wonder if I could make this myself?" We have in my family, an heirloom orchard that I have been working for the last three years to try, actually four years to try to restore back to its former glory.

It is a farmstead from 1892 up in Northern California that was in very bad disrepair. The apples just now after several years of working on very diligent pruning and getting some of the disease and bug issues under control, the apples are just now starting to come into their own. We have some very, very unusual apples that I've always wanted to turn into cider. As I started reading about different ways to make cider and I started diving into some of the books, they can get very scientific and very geeky in a very short amount of time, which can be fun but I was looking for something that dove into the nuances of flavor. That's really how I wanted to approach my cider is, "How can I get the really unusual flavors that I might find in a local brewer?"

Well, sure enough, a book came out just a few months ago that I couldn't be more excited about. One of the people who I love to follow in the foodie world is Emma Christensen, and she has a really strong food background but she also loves to do home brewing and has written several books on the subject. First, let me tell you a little bit about Emma. Emma is a food writer and editor with over 10 years of experience creating food and cooking content for online and print publications. She's currently the managing editor for "Simply Recipes" and a former editor for "The Kitchen".

Emma is also the author of three books on home brewing; "True Brews" was her first book and I absolutely love that book. It covers all sorts of things like how to make soda and kefir and kombucha and she does cover cider very briefly in that book. Then she went on to write another book called "Brew Better Beer", and that is all about making beer in your home. Then this book that just came out called "Modern Cider". She also collaborated on the James Beard Award-winning cookbook, "The Kitchen Cookbook".

Emma is a graduate of the Cambridge School for Culinary Arts and Bryn Mawr College and she lives in San Jose, California. If you want to find out more about fermented beverages or more about what Emma does, I will have in the show notes for today's episode, links to her website, all of her books, and a recipe for how to make cider that is directly from her book, a real basic beginner recipe that will be in a printable form all in the show notes for today's episode. To get to that, you would go to livinghomegrown.com/128.

What I wanted to do with Emma is bring her on and have her talk a little bit about making cider at home because honestly, it's not that hard and it's a great introduction into home brewing if you later want to go into making beer or get really complicated with your flavor combinations. She goes the whole gamut inside her book, "Modern Cider". It goes from the basics, all the way to the advanced but for today's episode, I wanted to bring her on and just really start with cider making 101. How to take an apple juice and ferment it into an alcoholic beverage that we would really want to drink.

She talks about everything from the different types of flavors that we can get from the apples, the three different types of apples that are available to us and how we use those to get the different combinations. Also, she walks us through, she holds our hand and walks us through step-by-step, how a cider is made in our own home. I will have links to everything again, that she talks about including the recipes, so don't worry about trying to write down too much because she's just going to go over the basics of how this all works and then if you want to actually want to try a recipe just using store-bought apple juice, she is letting us pull one of the recipes from her book that uses just store bough apple juice.

That's the thing I wanted to make clear here. You don't have to grow apples in your backyard in order to make homemade cider. You can use juice that you get at the farmer's market, and as

Emma discusses on today's episode, you can even use store-bought juice. She goes into if it should be pasteurized or raw and the advantages and disadvantages of both. She goes into all of that in today's episode.

Really, this is a super informative episode and if you're at all interested in how cider-making works or how you might want to do it yourself, I think she takes any fear away from giving it a shot and I think you'll really enjoy it. With that, let's dive into my conversation with Emma Christensen, the author of "Modern Cider."

Hey Emma, thanks so much for coming on the show today.

Emma: My pleasure.

Theresa: Well, I'm super excited to have you on. I've been a big fan of yours for a long time. I have your "True Brews" book and now your "Modern Cider" book, and I know you've also done a beer book, which I will list all the books in the show notes for this episode but I am very excited about the cider book because this is something that I've really been wanting to learn. I've investigated some other books and sometimes they get really tech-y and science-y, which can be fun but it can also be very intimidating. Your book makes it doable, so thanks so much for coming on, I'm super excited to talk to you.

Emma: Oh hooray, me too.

Theresa: Yeah, good. I guess I'd love to have you begin by telling everybody about what it is that you do for a living.

Emma: Well, my primary job is actually as the managing editor for a cooking and recipe website called "Simply Recipes", so that's my day job. Then in the rest of my time, I'm a total fermentation nerd. Like you said, I've written a couple books but even beyond that, I just like, you walk into my kitchen and there's just always

something going on. I've got a carboy of beer bubbling, I've got kombucha in the corner, I've got kefir in the fridge, so lots of projects going on.

Theresa: Yeah, well that's right up the alley of my listeners because they are into fermenting all sorts of things but I loved that you did a whole book on cider because you had touched on cider in your "True Brews" book but it was obvious that there's so much more to tell so is that why you decided to do a book specifically on "Modern Cider"?

Emma: Yeah, so I did touch on it in "True Brews" and then I included I think just one recipe for it in the beer brewing book because I did a chapter on gluten-free beers in the beer book. Both of those brushes with cider-making just like you said, it just kind of opened this door where I just knew that there was way more to explore there and a lot to talk about, and a real opportunity. Like you said, a lot of the cider books out there are pretty technical, they're often geared toward like professional brewers or like hobby brewers that happen to have an apple orchard in their backyard or something like that.

I just felt like there was this real opportunity to target people like me who just like want to experiment and live in an urban apartment and you want to see what you can do. Yep, that was most of the motivation. That's really the motivation for all of my books. It's just whatever I'm curious about and can convince my publisher to let me write a book about.

Theresa: Yeah. Well, you definitely have your finger on the pulse of what's going on because of all your background but I think what I love about what you do is I kind of always thought of the beer brewing and cider-making, when I looked at the books, it definitely seemed kind of like a man's club and maybe that was part of it. They didn't really speak to me. I feel like your books speak to me, actually male and female, I think your books run the gamut, but I really felt like I connected with you so much better on your books than I did

with the other cider books. Kudos to you for diving into this and really making it, you take the fear away. You totally make it understandable, like I understand what's going on. That was important to me in everything that you do, so you're doing a great job.

Emma: Oh, that's fantastic. That makes me feel just so happy and warm in my heart to hear because that is my ultimate goal. My goal is to take this thing that seems weird and foreign and maybe you have no idea of how to do it or what equipment you need and just make it into something you can have fun with and you don't need to worry about having everything be perfect. Just trying to break it down and give people the confidence they need to go and have a successful batch of beer or cider or whatever they want to make.

Theresa: Yeah, exactly. I definitely got that from your book that this is doable, it's not as hard and scary as it sounds and that you really make it so that I could be fun. Just to be clear. We're going to be focusing really on cider-making 101 but your book goes beyond 101 and I wanted everyone to know that, that even though we're just kind of just scratching the surface, you go into really getting, I don't know, experimental with the flavors and everything else and we can talk about that a little bit but I just love that you run the whole gamut. I guess one of the things that I would love to have you talk about first is, I know people, whenever it comes to any kind of fermenting, if we're really talking to someone who's never done this before, just like with fermenting vegetables, cider-making is actually a very safe thing to do, isn't it?

Emma: Oh yeah, like any kind of fermentation, like if you get the least amount of fermentation in your cider, that's really enough alcohol, it's enough things going on in the cider to protect you against anything that would cause you harm. You still might not make a perfect batch, there still might be things that go funky with it but it is totally safe. This is how people preserve food and make food safe for centuries. They've been doing this for centuries. If people 500 years ago can do it in their conditions, then you can 100% do

it in your own kitchen.

Theresa: Perfect. Yes, absolutely. Well, I guess it would help everybody if they kind of understand the big picture of what we're doing when we are making cider. Could you kind of explain what's going on when we're making it?

Emma: Yeah, sure. Any kind of fermentation project like this where you are aiming for something alcoholic in the end, you basically start off with some kind of sugary liquid, in this case with cider, we're starting off with apple juice. That has all the sugars and the flavors and everything in it already. Then you add yeast in one way or another. The yeast eat the sugar in the liquid, in the apple juice and release alcohol and carbon dioxide as a byproduct. That's basically how you get an alcoholic fizzy cider or any other kind of fermented beverage like this. That's pretty much it. There's obviously a little more technical detail in there but the basic process is sugary liquid, yeast, give it some time, bottle it up, and you got it.

Theresa: Perfect. Yes, and the more sugar that gets converted, we get more alcohol, right? Is that how it works?

Emma: Yeah, that's correct.

Theresa: Yeah, okay.

Emma: That's correct, and the yeast will just keep eating the sugar as long as there is sugar to eat so most apple juice is about, you'll end up with a cider that's about 6 to 7% just if you're, on average, that's what I found when I was working on the book. You can increase that alcohol by adding sugar, adding honey, adding anything you want. Decreasing the sugar is a little harder when it comes to cider because you're working with whatever sugars are already in the apples but yeah, it's a pretty straightforward formula of like sugar to yeast equals the alcohol. More sugar, more alcohol, less sugar, less alcohol.

- Theresa: Got it. Okay. Since you have written the book on beer as well, I was curious if you could explain the difference in making cider versus beer because there is some similarities but I'm sure there's differences as well.
- Emma: The similarity is that the fermentation process is the same basically for beer and for cider. A lot of the equipment is the same. If you're a beer brewer already, you can use a lot of the same equipment for making cider. The difference is really how it's prepared. With beer, there's a whole process of getting the grains and soaking the grains in hot water and getting sugary liquid from the grains and then using that sugary liquid to make your beer and it's kind of a technical process. You have to monitor the temperature and yadda, yadda, yadda. With cider, it's much more straight forward. All you need is apple juice. That's it. Like you don't really need to do anything to the apple juice. You just take apple juice and add yeast and you're ready to go.
- Theresa: Yeah, that's what's kind of fun about it. I'm sure it's like super fun to do the beer too but I think if you were trying to decide which to start with, I think the cider would be an easier thing to start. It would be a good first step in this type of fermentation.
- Emma: I agree, and now that I understand cider and have made it for a long time, that's where I recommend people start as well. I think it's just a really good way to get familiar with the whole process, get familiar with sanitizing your equipment, how to use the equipment, what the process looks like from start to finish, and you get a really good product at the end. Beer is a little trickier, like it's not always guaranteed that the beer you end up with is going to be super amazing awesome. Cider's a little more reliable.
- Theresa: Well, that's good to know. I love knowing that because I'm actually more of a cider drinker than a beer drinker so this is all wonderful news to me to know you have a little bit more of a guarantee that you get a drinkable product at the end with cider. One of the

things I loved about your book was you kind of break down the flavors of apples and that's there kind of three types of apples that we use in cider-making so I'd love to kind of start the conversation there because it's not, although, you do go into like you can just use regular apple juice, when you're getting really into the flavoring and the blending and things that you really break it down into three. Could you talk about what that is?

Emma: Sure, so the three main kinds of apples, and there are, I'm using the words that I use for this because I think they make more sense to the average audience, there are technical names for these apples as well. The three main types of apples are sweet apples, acidic apples, and bitter apples. In the apple-growing world, those are dessert apples, cooking or culinary apples, sometimes they're also called sharps, sharp apples, and then the bitter apples are what are commonly referred to as the cider apples. I'll go through each one.

Sweet apples are the ones that you and I know that we eat every day. They're the ones that we eat every day. You can buy them at the grocery store, it's apples like gala apples, Fuji apples, golden delicious. They taste sweet to eat but really in terms of cider-making, what we're interested in is that these apples have sugar. They do bring flavor, they bring like an apple flavor to the cider itself but we're really more interested in them for the sugars that they bring.

Acidic apples, we can also find them at grocery stores but they're the ones that are a little more sharp and acidic tasting. Granny Smith apples, Macintosh apples, Mutsu varieties. Those kinds of like you bite into it and your tongue kind of puckers a little bit.

Theresa: Yeah.

Emma: Your saliva glands start going. Then the last kind of apples, bitter apples or cider apples, these are a little harder to find, and really, you can only find them at farmer's markets or if you yourself have

an orchard or you have access to an orchard. These apples are tough, bitter, little fruits. They are not anything that you want to eat out of hand. You bite into it and your mouth just goes dry. It's like sucking on a tea bag or biting into an under ripe pear. You would never think that they would make a delicious cider, but what they add to cider is this kind of, well, they add tannins, which are I think people are likely familiar with that word from the wine world.

Theresa: Mm-hmm (affirmative).

Emma: Tannins are this like kind of a, they have like a texture, it's like a softness or a mouthfeel to the cider as well as a little bit of actual bitterness that kind of balances out the sweeter and more acidic flavors.

Theresa: One of the things that I think of when you describe that bitter apple is like some of the crab apples that I have that are really like, you bite into them and they taste tannic and like you would never eat one.

Emma: Right.

Theresa: Is that kind of what you're talking about?

Emma: That's correct. There are actual cider apples. They're not technically crab apples, they're a different variety of apple but crab apples are great and they can definitely be used for this purpose, for the bitter apple purpose in making a cider. Also, Quinces or Quinces, I don't quite know how to-

Theresa: No, Quince, I say Quince.

Emma: Yeah.

Theresa: Yeah, so Quinces too?

Emma: Quinces are great.

Theresa: Okay.

Emma: Mm-hmm (affirmative), yeah. Those are probably the two more common fruits that people can get if they want to blend together their own cider juice.

Theresa: Yeah, now Quince, I didn't even realize you could use so that's exciting because I have Quince too. Okay, perfect. All right, so there's those three. When you're making a cider, and we're going to kind of talk about just making a cider with just straight apple juice but if you were wanting to get fancy with this, is it a blending of all three of those that you kind of end up going for?

Emma: Yeah. That's right, and something to kind of remember is that every apple, there are no pure sweet apples or purely acidic apples or purely bitter apples. Every apple, even apples batch-to-batch or within the same orchard are going to be a blend of those three elements. You might have a sweet apple that has some acidity or an acidic apple that brings a lot of sugars to the table. It's really about tasting the apples that you are thinking about juicing and making into the cider and kind of thinking about how they'll go together. Sometimes I'll take like a slice of one apple and a slice of another apple and I'll put them in my mouth at the same time and kind of chew it and kind of think about how they go together.

In general, you want kind of a good foundation of the sweet apples, that's kind of your base both for the sugars that the yeast are going to eat and also for the flavor of the cider. Then you want to bring in enough acidity to balance that sweetness and kind of perk everything up. If you leave out the acidity altogether, you end up with just a very bland kind of watery-tasting cider that's just not very exciting.

Theresa: Oh, okay.

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- Emma: Same with the bitter apples, like the bitter apples kind of come in to, like you almost don't even know they're there in the final cider but you would know if they weren't there.
- Theresa: Oh, okay.
- Emma: They just kind of add a background support I would say to the cider. Since the bitter apples, they can be hard to find, you can buy powdered tannin at home brewing stores and that is actually a great substitute. The same for acidic apples actually too, you can buy an acid blend at home brewing stores and add that in if you kind of get to the end of your cider and you're like, "Eh, the balance isn't quite right, maybe the apples just didn't turn out the way that I thought they would once they were fermented," so you can kind of adjust it after the fact.
- Theresa: That is so good to know. It's not a total loss. It's saveable.
- Emma: Exactly. Yes.
- Theresa: Well, that's another thing that-
- Emma: Cider is rarely a total loss. With cider, unless it actually picks up some sort of weird bacteria that makes it funky or unless it turns into vinegar, which we can also talk about, there are a lot of ways that you can tweak your cider and make it good.
- Theresa: Ah, so it's very forgiving. That's another really good thing to know. Fantastic. Well, okay, so let's say we don't have any apples right now and we want to experiment and try making cider. You do say in the book that we can just buy juice and make cider, is that correct?
- Emma: Yeah, that's totally right. You can get that juice anywhere. I think it's fairly safe to say that the better quality juice you can find, basically the better quality hard cider you'll end up with on the other side. You can make a pretty darn good cider even with like

your most generic store-bought brand of cider. I've made ciders with everything from fresh-pressed raw organic apple juice, apple cider from, that I picked up at the farmer's market all the way to the generic store-bought brand of cider. Anything within that range is going to work and make you a good cider.

Theresa: Perfect. This is getting better and better. Okay, so let's say we are interested in just getting some juice, you talk in the book about pasteurization versus raw juice. I'd love for you to kind of explain the difference or the pros and cons of each and what we should look for.

Emma: Sure, so first of all, you can definitely make cider with pasteurized apple juice, that's a little bit of the myth that's a hold over from earlier forums of cider-making. When you pasteurize apple juice, basically what you're doing is heating it in one form or another and when you heat it, you kill any bacteria or natural yeast that is naturally occurring in the juice. You also change the flavor a little bit. You lose a little bit of the subtleties of the juice, you can lose some of the aromas that are in the juice. There are different forms of pasteurization so some forms are a little more aggressive, so if you get like Tree Top apple juice from the grocery store, that is like massively pasteurized and you basically get kind of a one-dimensional juice that doesn't have a whole lot of character.

Versus like some states have pasteurization laws so you might buy organic fresh-pressed juice from your local orchard at the farmer's market but maybe they flash pasteurize it for legal reasons.

Theresa: Mm-hmm (affirmative).

Emma: It's still going to be pasteurized, you'll still lose a little bit but it will still have a lot more of the natural character of that juice. In terms of fermentation, what this means aside from losing some of the aromas and the flavors in the pasteurized juice, it also affects the yeasts that are in there. If you have raw juice with all the bacteria and the yeast and everything still bubbling away and happily living

inside that juice, you can use those yeasts, that yeast and the bacteria that are in there. You can use those to actually ferment your cider. You don't have to add in any yeast or any outside stuff. You can kind of just take this gallon or however many gallons you want of this raw cider and just let it ferment and it will ferment on its own. It has plenty of natural yeast in there.

There are some risks in that, which we can talk about separately but then if you take the pasteurized juice, what that means is you now have this kind of clean slate for making your cider, which is good because you get to add in whatever you want in there but it does mean that you have to add in commercial yeast yourself. You might have to add in some other things to kind of help balance out the nutrients in there. Though neither one is good or bad, it's just kind of whichever approach you want to take.

Theresa: It's different. Right. The basic gist of it is that with pasteurized, you have a clean slate but you may not have the nuances that you would want so you might have to add things in to get that but with the raw, you'll have the nuances but if you go totally raw, you can have more of a risk of something going awry. Like the raw yeast kind of takes over, is that what you're talking about?

Emma: Yes.

Theresa: Yeah. Okay.

Emma: Yeah, basically.

Theresa: Yeah, so that makes sense.

Emma: [crosstalk 00:25:45].

Theresa: Yeah, okay.

Emma: You say it much better than me, you should write the book.

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- Theresa: Yeah. No, it's just that it's very similar to when we're fermenting food or fermenting anything.
- Emma: Right.
- Theresa: Even sourdough. You want to have the right environment for the yeasts and the bacteria that you want and sometimes things can run amuck and it's not the end of the world but you might not get what you're looking for at the end.
- Emma: Exactly. That's exactly right.
- Theresa: Right. Okay, so the bottom line is we could go either way so if someone's thinking, "Okay, I just want to test this out, I just want to try it," because we're just talking basic 101 here, they could totally go with pasteurized juice. I would definitely recommend they go with something from a farmer's market so they get some more unusual apples maybe in there but it could be pasteurized and it will still work, that's the bottom line.
- Emma: Exactly.
- Theresa: Yeah, okay, perfect. One thing that I know holds people back is the whole sterilizing thing because they don't want some unusual yeast to be in there when they're brewing so what is it that we do so that we don't have to worry about some stray yeast kind of taking over what we're doing?
- Emma: Yeah. It's like 90% of it is just being clean and just kind of being aware of not petting your cat and then handling equipment. You have things like that and then the other part of it is you can sterilize your equipment. Sterilizing kills everything and that is best done through heating. Some people put their equipment through their dishwasher or they bake it in the oven if it's not plastic. Anything that's glass, you can bake in the oven. I actually just use a sanitizing solution and again, this is something that's pretty easy to find at home brewing supply stores. Some people also use iodine

because they feel a little safer using that or they just feel like that's a little better for how they like to sanitize their equipment.

It's just a matter of contact. Usually, I fill up my big bucket with the sanitizing solution. I put all the equipment in there like the whisk, the tube, the airlock, all that kind of stuff. I wedge the lid of the bucket in there and you just let it sit for however long the instructions for your sanitizing procedure say that you have to let it sit. Usually, you just let it air dry at that point and then you carry on. As with a lot of things with cider-making and fermenting in general, my basic philosophy is do the best you can. You might make some mistakes the first couple times you do it because you're doing a million things at once and it's all unfamiliar but you'll get better at it and especially with cider, even if you mess up a little bit, if you, "Oops, I touched the airlock and I hadn't washed my hands," or something like that, like it's not necessarily a disaster.

I always say, I'm just like, "Do your best, carry on, and then see what you get out the other side."

Theresa: Yeah, oh, I love that, so it's not quite so scary.

Emma: Yeah. It's really not. It's not a big deal. If you can wash dishes, you can sanitize equipment.

Theresa: Ah, well there you go. Perfect. Then what are some of the basic equipment? What are some of the things that we need because I know one thing that might hold people back is they're thinking, "Oh, I'm going to have to buy tons of equipment to make this work." I know there's some things definitely that we have to have and then some things that are nice to have. What do you recommend?

Emma: Yeah. The equipment you need for cider-making is pretty darn basic. It's less than what you need for beer-making and for a lot of other kinds of fermentation. Basically, you need some sort of jug or

container to hold the juice. I personally like using a combination of a two-gallon bucket and a one-gallon glass jug. I do one-gallon batches for the most part but scale it up if you want to do larger batches.

Theresa: Okay.

Emma: You need a container to hold the cider. You need an airlock. An airlock is just this little piece of equipment, it costs like a couple bucks at the home brewing store and it just protects what's inside that container from the environment outside it. It allows carbon dioxide to escape so the gases don't build up too much inside the container, but it also prevents like fruit flies and dust and whatever other stuff is around from getting into your cider. It just creates a contained system.

You'll need some plastic tubing and a siphon to transfer the cider from one container to another or from the main container into the bottles. That might sound kind of weird and intimidating and it is the first time you use it but once you've used it once, it's like a skill you'll have forever. It's not too hard. Then just bottles and bottling equipment. Caps and then there's a little like capper thing that you can buy to put those caps on.

Theresa: Okay. I had a question on the bottles. Can we, if we wanted to, can we use those flip top bottles instead of a-

Emma: Yeah.

Theresa: Okay, so either one works, right?

Emma: Yep. Either one works. Yeah, there's no real advantages or disadvantages to either one. Yep, you can use both.

Theresa: Okay, perfect, because I know someone might be brewing kombucha or something and they might already have the flip top bottles so they could use those if they wanted to.

Emma: Yep.

Theresa: Okay, then one of the things that I'd love for you to do is kind of walk us through what it is that we would be doing. Walk us through a recipe, just something really basic so we could kind of understand what we need and don't need because I know that if we wanted to, we could like measure the gravity and figure out how much alcohol we have and we don't have to do that but it's kind of a nice thing to do if we wanted to. Could you kind of talk us through, hold our hands and walk us through a recipe?

Emma: Yeah. I got to say, it's pretty easy. Basically, all you need to do is take your juice, pour it into a container. If your juice came in a jug, like a wine gallon jug, you can actually do it right in there. Add some yeast, and you only need like a couple teaspoons of yeast. There are special brewing yeasts. You don't want to use baking yeast for this. You want to use wine yeast or beer yeast, something that's meant for brewing. There are a couple other little things, you can add some yeast nutrient in there and the other thing I put in is a pectic enzyme thing that kind of just prevents that apple juice from becoming hazy.

They might sound technical and a little bit scary but they are definitely not. Don't worry about it. Whisk it up a little bit. The yeast really like oxygen in the first stage of their lifecycle, so you want to whisk up the juice or shake the jug, whichever kind of makes the most sense for you, just to get some air in there. Close up the container with your airlock and let it sit. That's your active part for the day.

Fermentation will happen over the course of like two to three weeks give or take, depending on room temperature and how much sugar is in your juice and a few various things. The first week will be really active. This is when you'll see bubbles coming up through the airlocks and you can actually hear the juice fizzing if you put your ear close to the container. You might see a lot of

bubbles coming up at the top of the container. Then after about a week, the yeast basically has started to work through all of the easily fermentable sugars, the easily digestible sugars and everything starts to kind of quiet down.

The yeast are still active. They'll still kind of be working on some of the more complex sugars that might be in your juice but also what's happening is sediment, any kind of particles that have been churned up during fermentation used yeast. All that stuff starts to kind of trickle down and settle on the bottom of the container and leave the cider crystal clear. By the end of it, it should be totally clear. Then at that point, that's kind of the whole fermentation process, and then you just transfer it into bottles. You can add a little bit of extra sugar to the bottle to give the yeast a tiny little kickstart and that's what can make your cider fizzy.

You don't have to. Traditional ciders actually usually serve flat, so you can choose whether you want it fizzy or not fizzy. Bottle it up, let it sit for a little bit longer and then refrigerate it and drink it, and that's it.

Theresa: Wow, yeah. It is a pretty simple easy process and when you're talking about transferring it, that's when we're using the tubing, right? That's when we're doing the siphoning so that we leave the sediment behind and it gets really clear?

Emma: Yes exactly.

Theresa: Okay. If we want to do it flat, we don't need to add anything else and it'll almost be like alcoholic apple juice, right? It won't be fizzy.

Emma: Yeah.

Theresa: If we want fizzy and we add a little bit more sugar back into it, is it that whatever yeast is left in there, it just starts eating again, so it's like a second fermentation?

Emma: Exactly.

Theresa: Okay.

Emma: Exactly, and because it's inside of the bottle at this point, all that carbon dioxide is trapped within the bottle, it can't escape and so it basically forces the liquid to carbonate.

Theresa: Okay, and I'm sure you have to be kind of careful so you don't add too much or else you could have like exploding bottles.

Emma: Exactly.

Theresa: Yeah.

Emma: Yeah.

Theresa: Okay, that's probably a science all in itself.

Emma: That's where you want to follow the recipe.

Theresa: Yeah. That's where you don't go nuts and think, "I want a lot of carbonation because it might go too far."

Emma: Yeah. Although, it's not that, again, it's a thing that's not that scary like I think I usually do 22 grams of sugar in a one-gallon batch and that gives it kind of a medium level of carbonation. If you go 24 grams of sugar, you'll be fine. If you do 20 grams, you'll be fine.

Theresa: Okay.

Emma: You just don't want to spoon the sugar in there without any kind of measuring, that's when you have bottles exploding in the basement.

Theresa: Yeah. That's something we don't want. No, absolutely, so let's talk about the sweetness a little bit because as you were talking about

that, the thing that came to my mind was how do we make a cider different, like how can we make it sweet versus dry? I know people have preferences. They might want it a little sweet, they might want it not sweet at all. Is that determined by the yeast that we use or is it determined by the extra sugar that we add? What determines dry versus sweet?

Emma: Dry versus sweet is mostly result of the apples and the apple juice. I got to tell you, it's actually pretty tricky to make a sweet homemade cider. There are traditional cider-making methods that people use that kind of preserve the sugars and prevent the yeast from eating all of the sugars but it's just kind of tricky to do on a home level. For the most part, you should just expect to end up with a fairly dry cider. There are things you can do afterwards to sweeten it up. One of my favorite methods is just to have like a honey syrup on hand and I'll put like a tablespoon of honey syrup in my glass and then I'll pour the cider over top and it just gives it a little bit of sweetness. I think that's the easiest way.

Theresa: Yeah, that'd be super easy, and you could use a local honey. Yeah.

Emma: Exactly.

Theresa: Yeah, okay. I like that one the best.

Emma: There are some tricks you can do. You can pasteurize your own cider and then add sugar at that point because once you pasteurize, you killed all the yeast and then you can freely add sugar back into the cider without a risk that it's going to start fermenting again. I don't know, it's not my favorite thing to do because again, you've spent all this time kind of building up your cider and getting all those flavors in there and pasteurization dulls it a little bit.

Theresa: Mm-hmm (affirmative).

Emma: Yeah.

Theresa: Yeah, no, I like that. I like doing it by the glass because you're more in control.

Emma: Yeah, exactly.

Theresa: Definitely.

Emma: On the traditional level like if you have access to a wide variety of apples, you can get apples that give your cider more of a sweet flavor without adding the sugar that the yeast is going to eat. It's a little bit technical. Actually, this is what the traditional cider apples do. They tend to give you a cider that has a natural sweetness without having it be, without adding a lot of sugars that the yeast are going to eat. There are also some varieties like pears, if you make a pear cider, they're pearies. Pears have a different kind of sugar that yeast don't really eat so you end up with kind of a naturally, I'm not going to call it sweet but it's definitely sweeter than a dry apple cider.

I played around a lot with doing blends of pear juice and apple juice, just to kind of play around with that sweetness a little bit. Other fruits too, you can add in like cherry juice or pomegranate juice or any other juice that you want to add. Those will kind of play with your perception of sweetness. Again, all of the actual sugars will be gone, they will be eaten by the yeast but our tongues will still perceive various flavors as sweet. Playing around with other fruit juices can really be fun and help out with that.

Theresa: Wow. I love that, so it's almost like you're playing a mind trick with your tongue by adding the other, is that what people are going when they're doing flavoring of their ciders, is they're adding the juices or is that flavoring something completely different?

Emma: I think it's all the same thing. Like if I'm making a cherry cider, then usually that's a blend of apple juice and cherry juice and I'm aiming for a cider that tastes like cherries.

Theresa: Yeah.

Emma: It'll have some of that residual sweetness or the perception of sweetness in it just because cherry juice kind of we perceive it as a little bit sweeter, and the same with any other juice that you use. Does that make sense?

Theresa: Yeah, that totally makes sense. This is what I loved about your book because as I was reading through the recipes, like the foodie side of me was going, "Oh my gosh, this is like a fun science experiment," and to be able to experiment with these flavors and the nuances of different fruits, that very much excites me and I can see why people geek out on the science side of it but as well, the foodie side of it is really fun.

Emma: Oh totally, yeah. I like playing around with both sides of things. It doesn't have to stop at fruit juice either, you can infuse the cider with spices like I do kind of a winter warmer cider and I put cloves and cinnamon and a vanilla bean in there. You can add tea, you can make like a tea-infused cider. I also do another cider where I infuse oak cubes with rum or you could do bourbon or any other kind of liquor and put that in the cider to give it kind of a barrel-aged flavor.

Theresa: Wow.

Emma: There's lots. It's kind of endless of what you can do.

Theresa: Wow. Yeah, so when you do the spices, do you do that actually during the fermentation or do you do it as like a second soaking after?

Emma: I usually do it, you can do it at a lot of different points in the process. Like many things with cider-making, there's no one right way to do it. I tend to prefer to add the spices or any other kind of flavorings once that really active stage of fermentation has slowed

and then basically at that point, there's alcohol in the cider already and I feel like that alcohol that's in the cider helps to strip out the flavors from whatever it is that you're adding and kind of infuse them into the cider in a very clean-tasting way.

Theresa: Yeah.

Emma: That's what I usually do, and then you strain it out before you bottle.

Theresa: Okay. Very good. One of the things that you talk about in your book is figuring out what the alcohol content is and I know to do that, we need to measure the gravity, so I'd love for you to just explain how that's done because I know that's a question people are like, "How do I know if this is high alcohol, low alcohol?" How do they figure that out?

Emma: Yeah, so this is again, this is kind of a geeky science thing that probably sounds really complicated but you do it a couple times and it'll make sense to you. Basically, gravity is the density of a liquid. When there are sugars in the liquid, the density is increased. Basically, you have a little device called a hydrometer and it just looks like a hollow tube that has measurement markings on the side and you drop it into your cider and you let it float and you kind of see where the surface of the cider hits the hydrometer and when the cider is full of sugars, the hydrometer will float pretty high and you'll get a high number and then after fermentation, all those sugars have been consumed, so the density has dropped, the hydrometer drops in the liquid and you get a lower number. Compare the first number and the last number, plug it into a fancy formula, badabing, badaboom, there's your alcoholic content.

Theresa: Okay. All right, so it's not-

Emma: Does that make sense?

Theresa: Yes, totally makes sense and I know exactly what you're talking

about. I can even have a picture in the show notes so people know what we're talking about but it's just a handy, it's like a thermometer, it's something that you use for measuring but here we're measuring gravity and then you just calculate using the formula so that'll tell you how much alcohol so you can impress all your friends by telling them how much alcohol is in what they're drinking.

Emma: Exactly, 7.2% alcohol. You can figure it out.

Theresa: Yeah, okay. Very, very good. Well, I'd love for you to tell everybody what are your favorite recipes in the book because you made a lot of different ciders so in the book, what ended up being your favorites?

Emma: Oh gosh. One of my very favorite ones was the dark and stormy cider, and that was just a plain basic cider, just like we've been talking about and then I put ginger and rum-infused oak cubes in there to make this kind of dark and stormy-style flavor in the cider. That was a super fun one. I do a cherry pomegranate cider where I just add, it's half apple juice and then a quarter cherry juice and a quarter pomegranate juice and let that ferment, that is super fun and just so pretty. It's like this ruby red color in the glass, it's just one of the most beautiful ciders.

Gosh, what else do I like? I like all my ciders. I have a whole chapter on ciders that are like beers that are brewed in the style of beers so I have like a Berliner-Weiss style one that you make with traditional beer yeast and kind of give it the flavors of a traditional Berliner-Weiss. Same with an IPA, you can put hops in your cider, so I make like a hoppy cider. Those are always fun. I have some beer drinker friends who sometimes beer drinkers can, they love their beer and they get a little reluctant to try other things so sometimes I can get them on board with ciders by giving them a cider that tastes like beer, a cider that's brewed in the style of one of their favorite beers.

Theresa: Yeah, you can bring them over to the other side. Yeah.

Emma: Exactly.

Theresa: Entice them, yeah. They all sound so wonderful. I know my mouth was watering looking through the different choices and I'm really excited to experiment with some of the apples that we have on our farmstead. I'm just going to have to, also, we have so many apple farms around us so I know whatever apples I'm missing, I'll be able to get the juices from them as well, so I can really play with this. It's a really exciting and fun project so I just wanted to thank, Emma, for coming on and really kind of pulling back the curtain and letting everybody understand how easy this is and it's a really, really fun thing to do so anyway, thank you so much for coming on.

Emma: Oh, you're very welcome. This was super fun.

Theresa: I hope you enjoyed that conversation with Emma Christensen, the author of "Modern Cider". As I said before, everything that she talked about, her books, her website, and a PDF printout of the entire recipe of making a really basic simple cider will be in the show notes for this episode. To get to the show notes, you just go to livinghomegrown.com/128 and I'll have everything there for you. I really hope you will want to give this a shot. As you could see, it's a very simple process and you can make it as simple or as complicated as you want to.

I know that I personally am really looking forward to testing out some of the apple flavor combinations that we can get with our own apples on our heirloom orchard up in Northern California so I really appreciate that you took the time out of your busy day to listen to this podcast. Remember to go to the show notes if you need anything else or you want more information on how you can get Emma's book or you just want to visit her website or learn more about what she does. With that, I will see you next time and just try to live a little more local, seasonal and homegrown. Take care.



Live farm fresh without the farm®

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.