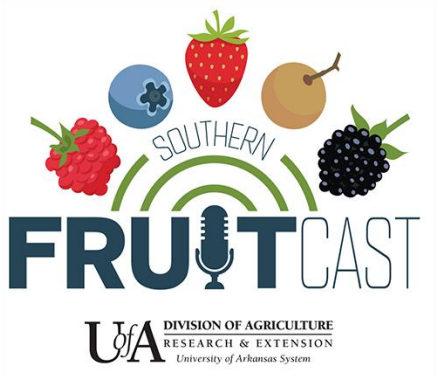
The Southern Fruitcast

Episode 7: Blueberry Planting Rejuvenation

& White Drupelet Disorder of Blackberry with Dr. Eric Stafne



[Intro] Thanks for tuning into the Southern Fruitcast. This podcast aims to cover the people, technology and latest developments at small fruit production in the Southeast. We are brought to you by the Southern Region Small Fruit Consortium and the University of Arkansas System Division of Agriculture.

[Cato] I'm Dr. Aaron Cato, extension specialist for Commercial Fruit and Vegetable IPM at the University of Arkansas.

[McWhirt] And I'm Dr. Amanda McWhirt, extension production specialist for fruits and vegetables, also at the University of Arkansas.

[Music]

[McWhirt] Hey everybody, this is Amanda McWhirt. Welcome back to the Southern Fruitcast. You may notice that our audio is a little bit different for this podcast. Aaron and I are joining from separate locations for this recording, but we were really excited to be able to welcome our guest today to this podcast. And so we wanted to go ahead and do the recording while we have the chance to bring Eric Stefne on. So our guest today is Eric Stefne. He's an extension and research professor at Mississippi State University based at the Coastal Research and Extension Center in Poplarville, Mississippi. He leads an active extension and research program in several crops, including Muscadines, Blueberries, Blackberries, pecan and a few other crops I'll actually ask him about today and he is also a U of Arkansas grad, so woo pig.

[Cato] That's especially relevant considering that the hogs beat both of the Mississippi teams this year. And I think a few of our football players have said that we effectively have taken possession of the state of Mississippi.

[McWhirt] Eric, thanks so much for joining us today.

[Stafne] Absolutely. I'm very pleased to be here and I'm looking forward to answering all of your questions about Mississippi fruit crops. And, yeah, my time in Arkansas was, was some of my best memories of my career, for sure. And working with John Clark and Curt Rom and some of those folks over there. It was really an exciting time.

[McWhirt] Yeah. So you have a long history of working in fruit crops.

[Stafne] Oh, yeah.

[Cato] Well, let's start off, just like you said, about some insight into small fruits in Mississippi. Could you just tell us a little bit about what y'all grow? I know a lot of people probably don't think of Mississippi as a specialty crop state. And then outside of that, just give us some insight into how 2020 has also faired for growers.

[Stafne] Yeah, absolutely. You're right. Most folks don't think of Mississippi as a place to grow, especially crops, especially fruit crops. And, you know, and some of that is, is well earned because we don't grow a lot of these things in terms of acreage. Our largest specialty crop would be pecans in terms of acreage. But we also do quite a few acres of, of blueberries. So I think we're in the top 20 blueberry production states and that's kind of our bread and butter in terms of fruit crops here is blueberries. So we grow a lot of rabbiteye blueberries and a little bit of southern high bush. And most of that production is south of I-20 in the state. So it's kind of near the southern part of the state is where that production is at. And beyond that, do we grow much of anything with the significant acreage? Not really. We do have some muscadines, a couple of, of very large vineyards of maybe two or 300 acres. But other than outside of that, there's not a lot. There's some small scale Blackberry growers, more in the kind of central and northern part of the state. There's little, little bit of strawberries here and there. But for those crops, we're really talking 100, 200 acres maybe in the state. Tree fruits, there's a few peaches around and those sort of things. But in terms of what I focus on, in turn, it's really blueberries. Yeah, for most of it. Now in terms of how is 2020 it is a mixed bag and really. We have a significant problem with weather in the last few years here and it's been killing us. We're having a late freeze and also we're having tropical weather systems in May. And those things are really reducing our blueberry crop and causing lots of problems. And so this year we lost some to frost in some areas. And then after that, the crop looked pretty good. And then this rain came in and we saw a lot of splitting, a lot of fruit drop and just unharvestable fruit because it's soft and that just was not good. So we're looking at a reduction of probably 50% of the crop this year. So it wasn't very good in terms of blueberries. Other things like pecans, those tropical systems maybe affected a little bit, but for the most part, it didn't cause a lot of problems other than disease. And so pecan scab was, was an issue because a lot of the rain, but there's still a crop to be had. It was an off year anyway, so we expected a lower crop, but we did see a little bit of a reduction there, you know, in terms. Yeah,

[Cato] Now as I say, it seems like a here in Arkansas, whatever misses us slightly. you know, we see a tropical storm coming in this or just even a one of those lingering fronts coming through, it always seems to hit you guys instead. And really it seems like it doesn't go either way. It always either hits you or hits us.

[Stafne] Right. And, you know, to me, I'm becoming more and more concerned that these types of, of weather patterns are becoming the new normal, so that we're going to have these huge deluge rains earlier in the season. You know, later in the season, when it's typically hurricane season, we're out of most of our fruit crops. So, you know, except for something like grapes or muscadines, but most of that is already gone. We're not that concerned. But as, as these things

come earlier, it can affect things like strawberries and peaches and blackberries and blueberries. So those are all can be significantly affected. And I think that's a real concern for us going forward. Now, what can we do about that? I'm not sure if we look at protected culture, those sort of things. But, you know, it bears watching as to what, what we will be able to grow in the future.

[Cato] Yeah. I think that's we've had definitely has some ships here in Arkansas for the same reasons where, you know, three years in a row people lose half of their strawberry crop or something like that, just intense disease or just rainfall. And eventually you talk to them a year later and they're growing something else or moving away from it. I mean, you know, one thing we talked about with or before or so in our office with Jonathan Agra was that, not Jonathan ? but John Johnson? I can't think of his name from Georgia.

[McWhirt] Phil Brannon

[Cato] Well, Phil Brannon but another person from Georgia and they were talking about late rains and blueberries. And so do you think, as I know, you'll have been hit by maybe five tropical systems now. I always have been a number that gone through Mississippi. Do you think that'll have any effect on some of the soil~~? Does it more~~ born diseases? More diseases like ~~Phytophthora?~~phytophthora?

[Stafne] You know, I don't, I don't know that that that's going to be the case. They they're spaced out a lot. And so I think we have enough drying time in there. And it's not, our growers ~~that~~ are typically pretty well educated as to where to grow and where not to grow. And so we're not seeing an entirely lot of ~~phytophthora~~phytophthora issues. It does come out from time to time. But the, you know, like I say, it's concerning. The rains, you know, the late rains in terms of~~.~~, I'm not sure what they mean by in Georgia, the late rains and the time frame, but for the most part, we're done by July ~~and in.~~ But the rains during the tropical systems during May and in early June are what's causing us the most problem.

[Cato] Gotcha. And so just a little bit more about the blueberries. How do the growers in Mississippi typically market? Are they a lot of wholesale growers or ?-

[Stafne] It's a lot of wholesale and it's changed a lot since I got here, which is nine years ago. So then it was a lot of wholesale and we had a couple of sizable co-ops. People would take it there. And most of the market was frozen or processed. So it wasn't you know, you have all kinds of small scale growers at five acres all the way to 50 acres, and they'd bring it there and it'd be altogether and it's in the process market. You get a the price back then was decent. So things have really shifted in the last ten years so that, you can't get a decent price for frozen anymore because they're so much in storage and a lot of that is come from the West Coast or, you know, in Georgia and places like that. It's just, it's just exploded. So we're have a really hard time fitting in where our niche is and we have a small window where we can make money. And so, you know, we we've seen attrition. So when I got here, we probably had 20 to 2500 or 2000 acres somewhere in there. And now we're down to about 1600 acres and a lot fewer growers. So it's a,

it's a changing dynamic. And it's a lot of that is due to things that are out of our control, frankly. So our growers are kind of struggling right now to figure out what are the options. Some have done a good job in establishing the markets and selling to other states. We have a we have a large co-op that sells a lot to Texas and that seems to work well. We have some growers who have been selling overseas to places like India. So there's a lot of different ways to go about it. There's still a lot of pick your own and that sort of stuff going on too, but I don't see as much of that as I think we could capitalize on because I'm not seeing a lot of farmers markets and those sort of things. But yeah, it's, it's pretty diverse as to what we do.

[McWhirt] So kind of picking up on that idea of blueberry production in the state. One of the things that I know you've been working on is the idea of rejuvenation of older blueberry plantings. And this is a question we get a lot in the state of Arkansas just because, you know, 40, 50 years ago there was a lot of blueberry production in the state. And now people are moving back in with the idea that they want to kind of rejuvenate old plantings and feed that fruit back into local markets. But, you know, the question from growers is always, how do I take this old planting and make it productive and profitable again? So would you be willing to talk about some of that research that you're doing in that arena?

[Stafne] Sure. Yeah. And as I just finished this study, it's a three year study and it was on kind of renovation of old blueberry plants and how to rejuvenate them and get them productive again. And what I used was this old, old planting we had on this on the station, it was there maybe 30 years. Nobody has probably looked at it in 20 years, and there was a lot of dead wood in there. And so but it's still produced berries, you know, but it just could have done better and it looked terrible. So, you know, I thought, well, can we get this back into some stage of productiveness? Because that's where all the fruit comes from you know. Your fruit is going to come from new wood and we have to get that going. So essentially with this study that we did was to cut them at two different heights off the ground. One was straight flush~~,~~ cut at the ground surface, and one was at 50 centimeters tall. And what I wanted to see was, does it matter, you know, getting rid of all the old wood? How fast does that come back? ~~Is~~ Is it, can it ~~going to~~ be something that be harvested in the next year ~~than two~~the two years, three years? I mean, what is that? And ~~and~~ how fast can we make some money, essentially? And the driving force was we have a lot of, just like you said, in Mississippi, we have a lot of old blueberry plantings that are just ~~rabid. I and~~rabbiteye. And here's what I'm talking about ~~rabbit I~~rabbiteye that had just been let go ~~and~~. And people buy them and they're like, I don't know what to do with this. And so and I've been asked that question many times and, and I wanted to give them a specific answer. ~~So my son~~ So most of them just cut everything down, which is fine, and that works. And our study found that that does work, but it takes much longer to come back into production as it leafs up. So when at the 50 centimeters height, what we found is that even in the next year, you could harvest, whether it was, you know, profitable to harvest at that first year was a little iffy, depending what you were doing with it. By the second year, you were up to a high level of productivity, which I think it was somewhere around 6,000 lbs per acre, which is, which is pretty good for us in terms of what a blueberry will produce. Typically, our range is about 4000 to 6000 for our average

~~Rabbit II~~rabbiteye and going up to 10000 if you got really good~~. Good~~, good variety and good management. The one that we cut to the ground still had not reached, at the end of the three year study, has still not reached the performance of the second year of the 50 centimeters. So going forward, my recommendation is to leave some of that stems there because all those latent bonds will pop out. You get a much faster growth, you get much quicker turnaround. And that's very important for someone who is going to spend a lot of capital to, to do the renovation. They need to start getting some of that funding back pretty quick. And this allows them to do that at least 1 to 2 years earlier than they would otherwise. Now, a lot of that what else one other thing that we did was to apply phosphorous acid. And the idea behind that, it was it was to benefit the plant in some way. You know, it's been promoted as something like that, as some sort of beneficial thing. It's been used to, to help with phytophthora infected plants, but also, you know, as a health promoter in some way. So we thought, well, if we apply this, will it help the plant come back faster and maybe less disease or something like that? So we did it as a drench. We did it as a spray and we did it as a combo. None of those things made any difference, okay? So, so we, you know, we're not recommending it as some miracle cure or anything, but, you know, it is, it has been proven in phytophthora infected plants, but these were not that. So but, you know, if you're just doing regular management, irrigation, fertilizer, you know, pest control, I think that the thing of leaving a little bit of that stems will really help.

[McWhirt] So that's really great information that, you know, definitely we'll be relating to our growers and we get that question as well. So we appreciate you doing that work. And then I will ask you, do you feel like that, you know, Cultivar, you feel like there's going to be any variation across Cultivar, or is there a point where, you know, certain cultivars you?

[Stafne] Yeah, that's hard to know. I think, you know, because I did this on one variety, right. And so, you know, there could be some cultivar variation in that. And, and, but I feel pretty confident that with rabbiteyes, you know, I wouldn't do this with Southern Highbush. I haven't tried it with Southern High Bush, let's put it that way. But with rabbit eyes, I feel pretty confident that most rice will respond in a similar manner.

[McWhirt] Okay. That's great to know. Well, you know, you have a really diverse program. So this interview is going to jump around a little bit because I want to try and ask you and get your advice so that we have some new information from a lot of different crops. So the other thing that we wanted to ask you about was the work you're doing on White drupe Disorder and Blackberry. And a lot of southeastern Blackberry growers are very aware of this disorder is where individual or groups of drupelets will turn white. You know, and you're in a perfect location in Mississippi to have the conditions where you're going to see this. And so you've been working on kind of trying to identify what factors are leading to its occurrence. Can you talk a little bit about what you've been seeing?

[Stafne] Yeah. I mean, this is definitely a difficult thing to get your mind around because it is complex and it's a definitely genetic by environment interaction. And so the first study that I did was with a couple of Arkansas varieties, Kiowa and Chickasaw, and along with a Mississippi

variety, Sweetie Pie and sweetie pie, as is more susceptible to this. We see more of it on that variety. So the study I did was was shade and we shaded some of these and took the shade off some of these. And what we found is if you put shade it eliminates, almost it totally eliminates the problem. Okay. Now, is it only shade or is it some other factor? I don't know. So that's another thing because you cover it with shade, you're maybe reducing wind speeds and you may be increasing humidity and, you know, all these other things, you don't know about. But, but it's probably a strongly a light factors involved in there. And so that was the first study that we did. And I think that was pretty useful to see that. And we saw that there were strong differences between the cultivars. So Kiowa and Chickasaw had fairly low levels of white drupelet disorder, whereas sweetie pie was a much higher. And it tended to be more of it on the early harvest picks and then drop off. But it wasn't consistent. I would say if you looked at the mean, it would do that, but it wasn't consistent necessarily all the time that way. So there was some other weather factor driving it. And so that's pretty interesting. And I looked at the weather data 10,000 different ways and I can't necessarily say that one thing or one combination of things is driving it. And I think you need to look at some serious data mining to actually come to some sort of conclusion about that, because it could be. I think if there's definitely heat, probably changes in heat, whether that's day or night, I'm not sure. Humidity, I think, plays a factor as well. So there's, there's, there's factors in there that I think I kind of have a guess about. But, but tying those to any kind of jumps in white drupelet that we're seeing at one time, it's pretty difficult to know what is actually causing it. So the second study that I did and I just finished this year was to look at nitrogen application. And this came from a study that was done in South America on raspberries. And I just stumbled across reading this. And they said that raspberries also get white drupelets. And what they found was by adding nitrogen, that that reduced the amount. So I thought, well, what about Blackberries? So let's give it a shot. And so I've done this study for three years now, and I only did it on sweetie pie because I knew that we were going to get white drupelets on this every year. And the thing was that we did, we applied just a normal rate of fertilizer to certain plots, and then we added extra to certain plots in terms of generally urea, what we added because we either did it one time or we did it in five consecutive weeks. Now that the fertilizer timing made no difference. So the extra fertilizer time and you didn't make any difference, but adding extra fertilizer did reduce the amount of white drupelets we saw. So it was, was it significant? It was statistically significant, yes. But it was about 25% reduction I would say. Somewhere in there. I'm still looking at the data. But so what causes that? That's a good question. We did some looked at photosynthesis, looked at leaf chlorophyl. None of those things seem to make any difference. So there were some theories thrown out in this other study that I mentioned before about it was just perhaps it was more shade because they had more leaves in those. But I'm tempted to, to think it's more of a overall stress reduction type of response. We also did some RNA seek on white drupelets. And, and coupled with what Gina Fernandes done in North Carolina, and we see a lot of the pathways for stress stressors are impacted by these white drupelets. So I'm tempted to think it's something there, rather than just a, a indirect response from, from shading or something like that. So it's, we're, we're gaining knowledge. Let's put it that way. But it's a large puzzle, and we've only got a few pieces. And so I

think someday we're going to figure that out. But it may be at that point where the breeders figure it out before we do. And I have theories about the genetics side of it that I don't want to share here necessarily, because they're not proven. But I have ideas of where that comes from, but and why we see it in some varieties more than others. But there's ways around it for sure, and ways to reduce it, whether shade or whether it's additional application of fertilizer or whatever. But I think, you know, as a general rule, reduction in stress is a good thing for these plants.

[McWhirt] That's great. Well, you have, you know, really important research going on that's, I think, really applicable to our region. So it's great to hear the details of that from you. You also have a really active extension program, particularly over the last year. You've been very active on Twitter and sharing a lot of information and kind of new and novel ways. And I know one thing that you did that I really enjoyed was your series on the Yard Fruits, where we were all stuck in our houses. And so you took advantage of that and kind of showcased different fruit crops that can be grown in the yard and kind of the specifics of their production and pest issues and what kind of fruit is produced. And I think that's such a nice use of a kind of tough situation. And I think you got a lot of feedback from people and people learned a lot. But I was kind of interested in, you know, you highlighted a lot of kind of obscure fruits that maybe a lot of people don't even know that you could grow in your backyard. Is there one that you talked about? And I'm going to I'm not going to give all the details away because I want people to go look it up on Twitter themselves. But is there one that you thought is of fruit crops that should be grown on a larger scale in the southeast?

[Stafne] Well, I think that, you know, there's, there's some things I'd like to see grown more, but I think the one that actually has the most potential is something that people kind of know about, but they don't know what to do with. And that's kumquats. And they grow like mad here. And actually, you know, when I did that Twitter series, it was in the spring and we were harvesting kumquats. Well, I have my second crop of kumquats on the tree right now. I'm getting close now to being ripe pretty soon. So you could get two crops here, essentially. And the thing is, you figure out what to do with it. You know, they're not that juicy, but they taste good. We made lots of cocktails with them, and that worked out real good. But we made jams. We made some other foods with them. And they're really fantastic. It's they get a lot oil in the skin. So if, good for cooking and, and those sort of things and, and the pests are not significant with them. We do see some pests which I think are fairly easily controlled and, and they're extremely productive trees. Now we don't have a lot of information on all the varieties because there are several different varieties of those and I think we could probably find out better ones that actually I have in my yard in terms of fruit quality and juiciness and those sort of things, but, you know, they or you can just pop them off the tree and eat them and that works as well, you know. That's something I think we could expand. But the problem is the market, of course, and that's what to do with that, all that fruit, because it can be a lot of fruit for one person. And you're trying to figure out if you're, if you're making, you know, there was enough to make wine or something like that, okay, now we're talking. But it's something that's, I think, worth thinking

about anyway in terms of that, because we do a lot of satsumas here. say a lot, but we do some Satsumas here which are fantastic and that's another one that I don't grow. Satsuma is the one I had in my yard got froze but, several years ago. But what we do, I think that's another area of potential growth. So citrus is something we could, could look at differently, but not, not the orange juice, navel oranges and all those sort of things. We just can't do those consistently. But something with the Satsuma as Kumquats, those, those things we can do. And I think there's opportunity there.

[McWhirt] Yeah, I thoroughly enjoyed it and I recommend it all our listeners go check out your, your series. I know I had messaged you because I have a loquat in my backyard and we did successfully get maybe five loquats off of it.

[Stafne] Nice, nice.

[McWhirt] Yeah. And it's blooming now, so hopefully we'll have another kind of mild winter.

[Stafne] Yeah. Yeah. Mine's blooming as well. Yeah. It's the loquat I love, you know, those are really tasty fruits. Yeah. And we, but we've only got like three crops in nine years just because of the time of the bloom, which is October, November, fruit sets, December, you know. So your chances of getting froze out are pretty good most years, unfortunately. But the tree is fantastic in terms of the ornamental quality. It's a really nice tree too. So even if you don't get the fruit, it's a nice one.

[McWhirt] Yeah, absolutely. Makes the bees happy this time of year.

[Stafne] It does.

[McWhirt] Not a lot of others out there.

[Cato] Yeah, that's a good segue way. Answer our last question to you that, you know, there's something interesting we've heard a lot from you on the different meetings we've gone to, and that's the breeding you're doing with Passionflower. I would guess many of the listeners here probably know the species for the flower because it's such an intricate flower structure and probably some know for food production. I didn't know you could eat it. I mean, I'm from Arkansas in the Delta and we just know that it's grown around and there's just tons of butterflies that kind of trackline it. Since I'm an entomologist, I know that the relatedness between Passionflower and Fritillary butterfly species, but it's so common and I really didn't know that anybody ate it. But now I know a lot of different meanings. I hear that they grow it, I guess the tropics in Florida for fruit production to some degree. But yeah. Tell us more about your breeding efforts and why you got into it in the first place.

[Stafne] Okay. Well, this is this is kind of a little bit of an interesting story here, because most of my interest in passionfruit came from Arkansas and specifically from Clarkesville Station. Where those maypops grow Everywhere out there. So John Clarke and I, we walk in the fields and the BlackBerry rows looking at different seedlings and they'd be all over the place. And I didn't know

you could eat it either. And, you know, most of this time just walked by. And I saw it as an interesting fruit, but I never tried it. And then one time, Chad Bean came and said, Oh, yeah, I love trying those and eating them. And I thought, What the heck? So I tried it, you know, and some of those are the may pops are really funky tasting, you know, they don't taste really good. But there's, you know, there's some that do and that's one of the challenges. So, so that's where my interest in developing it as a fruit came from it. And fast forward 20 years, I'm working with it now more diligently and I've gotten some selections from different states from Illinois and Oklahoma and Missouri and different places like that. And I've got some and I'm and I also have the commercial fruit producing species, so which is different. And so the tropical one is Passiflora edulis and that's there's two different kinds. There's a purple one and a yellow. And so I've been making crosses with that with the Maypops and it works. And so this year was the first year I made selections from that, and I was mainly selecting on fruit size and the amount of fruit that was produced. But there's a lot of you know, some of this work was done back in the fifties, sixties, the seventies, all the way up into the early nineties at Florida with a Dr. Knight who was there. And he made a lot of the same types of crosses, and he went towards the angle of using tetriploids or creating tetriploids and then over releasing one variety called Byron Beauty with University of Georgia, he co-released it. It doesn't produce fruit unless you have another tetriploid varieties. So, so they were kind of like, well, these plants are not self- fertile. So, you know, maybe it's not worth really releasing as variety, but I don't see that necessarily as a, as a hurdle that we can't cross because there we grow other things that aren't necessarily self fertile you know that where you need a male and a female and we can we can do that, you know, the kiwifruit or, or even pecans or muscadines on those things. People still grow those. So I think that we can do that as long as you have the right varieties to be compatible with each other because they're not self fertile and a lot of incompatibility exists. So there's several times when you go out there and you see a nice looking fruit and it's totally empty of any pulp at all. There's nothing in it, so it's just air. So we see that. I saw that quite often. So you just have to get the right, right varieties. Another problem challenge since put it that way, is the pollinators. It takes a fairly sizable bee. So Carpenter Bee is the most preferred. But bumblebees will work too. But honeybees are too small really to do a good job. But as you know, it attracts so many from pollinators, like you were saying, the butterflies, all kinds of like dance and everything else. You know, to wasps, every dance, just so many is so fantastic for pollinators because it produces a lot of nectar the nectar is and it's really sweet. So it's, it's very attractive to those. So at this point, where I'm at is I've made crosses within different Maypop selections and also inter specific crosses, and I've made some selections for the first time this year. I'm going to make some more next year and hopefully make some more crosses. The whole COVID thing is, is messed up a lot of stuff because we were home a lot of the time during when I'd get seeds ready to go and stuff out to get selected. So this year was kind of a little bit of a wash in terms of new, new seedlings and things, but hopefully we get back on track for next year. What is the outlook of this? I have no idea. It really depends on the success of the seedlings and how those go. And if I can find some, some good cross pollinator plants. There's you know, I haven't seen a lot of disease so far, but that's another thing to keep lookout for. And I've grown these also in the ground and in

pots. And the ground is, you know, I've had them freeze back twice and one time it totally killed everything. And they were in a high tunnel.

[McWhirt] Oh, wow.

[Stafne] Yeah. So but, you know, I have some hope that they're increased the cold hardiness with doing them. The interest was a here.

[Cato] So how do they, I mean, how do they taste. You said some are funky, but like the ones are selected are you getting some like good flavor ones?

[Stafne] Oh yeah yeah. Oh yeah definitely. If you're if you can incorporate the, the traditional commercial species in there, it'll have good flavor. It'll be really juicy. You know, one of the things, nice things about the commercial Passiflora edulis for is the seeds are tiny or fairly small. So, you know, you can eat it, you can eat the seeds.

Now with the may pops, the seeds are large and hard and you don't want to eat those and it's not extremely juicy. So what I'm trying to do is reduce that size of the seeds that maybe you could eat it if you wanted to, but also up the juiciness back there that even if you want to juice it for some other product, that it would be more attractive to do that. But yes, flavors are you know, there's some that are, I would say, pretty good.

[Cato] What would you compare it to?

[Stafne] Oh, well, I think it's a lot of that is going to be some of your other tropical fruit flavors, you know, mangoes and papayas and pineapple. And there's hints of those sort of things in there that, that are going to be familiar to you. You know, passion fruit is kind of a little bit of a very strongly flavored fruit. You know, I don't know how much passion fruit that you've eaten.

[Cato] zero. Hahahaha.

[Stafne] But it doesn't take much to give you that flavor. Okay. So you can even buy passion fruit juice in a jug or in a carton and it doesn't really contain all that much passion fruit juice, you know, it's mostly water, but you put a little, enough in there it's going to taste pretty strongly of that passion fruit because it just really, really strong flavor. And I think that's an opportunity as well. You might look at that as a downside. Well, it doesn't produce a lot of juice, which is true, but it doesn't take much either.

[Cato] Well I, for one, look forward to you popularizing this in our area that, I mean, all the insects that are just I mean, almost specific to passion flower are ridiculous. Like there's a little beetle that's an orange beetle that gets on it. And so I'm just looking forward to all those pests. So, gosh, a lot of all the gulf fritillary we're going to be saving.

[Stafne] Oh, yeah, right. Well, the gulf fritillary is are are kind of a blessing and a curse, you know, because that maypops their main food source they just. They will strip it in a short

amount of time, all the leaves, you know. And so, you know, you have to control that, really. You have to control that as a pest, but, you know, you don't really want to destroy the butterflies.

[Cato] Yeah. It's funny because in entomology we learn is like this ecological example of track lining and its fritillary. These are related species on a passiflora for a species. And so it's the idea that they can they move through an area and they know exactly where the nectar sources are and they lay eggs. And it's just it's just funny now that it's like a full circle, cause I didn't really remember much passion fruit. And then I got worked into rice. And there's so much passion flower around rice fields and ditches near it. And just do a great job in it. And then I met a Mississippi horticulturalist that are embracing it. So it's very interesting.

[Stafne] Yeah, some people probably would be like, don't put that stuff near me, you know, because it's it can be weedy. But what I'm finding is that when I make these crosses, the plants don't tend to be as weedy as, as the original maypops. So maypops, you know, they can pop up 15, 20 feet away from the original planting. When I'm making these crosses, usually the seedlings aren't, don't have that same aggressiveness, at least not that I've seen so far.

[Cato] Yeah, I've known some entomologists that transplanted maypops in their yards because of the butterflies, and it just takes over. I mean, it's hardy.

[Stafne] It is. It is. Yeah. And now they're pretty prone to viruses, from what I understand. And so that's another concern going forward, is that, you know, what other viruses here that could be detrimental to, to have long term plantings of this? And that's something I don't know. But going forward, it's, it's something that we need to consider.

[McWhirt] Well, Eric, we really appreciate you coming on the Southern Fruitcast and sharing all your insights and expertise about what's going on in Mississippi in small fruit crops. I learned a lot today. So we appreciate you coming on.

[Stafne] It's my pleasure. Anytime.

[Music]

[Outro – Cato] Thanks for tuning in to the Southern Fruitcast. Our episodes are hosted by Pod Bean and also can be accessed on the University of Arkansas extension website at uaex.edu/Southern Fruitcast. Here you can see all of our episodes and provide us feedback to help shape future episodes of this podcast.

[Outro – McWhirt] We'd again like to thank the Southern Region Small Fruit Consortium for funding this podcast. The consortium provides a large library of production and integrated pest management resources at SmallFruits.org. We'll be back again soon with more updates on the Southeast small fruit industry and interviews with specialists, researchers and farmers from across the region.