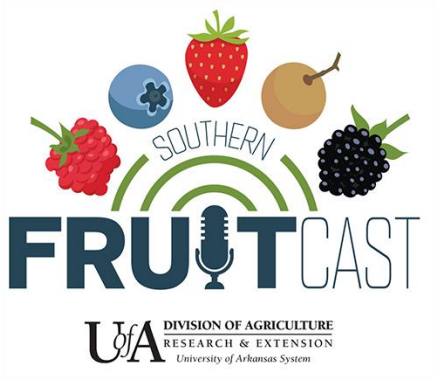
The Southern Fruitcast

Episode 16: All about Muscadines with

Dr. Margaret Worthington



[Intro] Thanks for tuning into the Southern Fruitcast. This podcast aims to cover the people, technology and latest developments in 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.

[Cato] Okay. Welcome, everybody, back to the Southern Fruitcast. Today is all about muscadines and we are interviewing Dr. Margaret Worthington. Margaret Worthington is an associate professor in fruit breeding and genetics at the University of Arkansas. Margaret directs the Applied Peach and Muscadine Grape Cultivar development programs at the University of Arkansas and is soon to take over the Blackberry Breeding Program as John Clark retires. Margaret's research interests revolve around the development of improved Blackberry, Peach, Nectarine and Muscadine grape cultivars. She also leads research on fruit genetics and molecular breeding and is especially interested in modern breeding methods and genetic tools which will accelerate genetic gain and strengthen applied cultivar development programs. It’s a mouthful. Today Margaret is joining us on location here at the University of Arkansas Fruit Research Station in Clarksville, Arkansas. I'm pretty sure she just stepped out of a field of muscadines. So it's good that today's all about muscadine grapes. And we're going to talk about how growers can integrate them into their production systems now and especially in the future.

[Worthington] Well, thank you so much for having me. I'm looking forward to it.

[McWhirt] We're very glad to have you so: muscadines. And so I think it's appropriate that we start off by acknowledging that maybe not everyone knows what a muscadine is. If you're from the Southeast, and I know a lot of our listeners are from the southeast, you're probably pretty familiar with these types of grapes, of course, native to the southeast, a little bit different texture and flavor, which I think are some of the exciting components of muscadines, that distinguish them from your typical vinifera or table grapes. So we're going to talk about muscadines. So if you're not familiar with them, we encourage you to go seek them out and try them so that you become familiar with them. But we want to start off by talking about why should people care

about muscadines, Margaret? Why should we be growing or being more interested in muscadines in the Southeast?

[Worthington] Because they're the best tasting grape in the world. I grew up in eastern North Carolina, which is probably the heart of muscadine country. It's a pretty popular crop to grow for the fresh market, for wine production. And a lot of people enjoy them as kind of a homeowner backyard crop as well. And so it's something that growing up in North Carolina, we would see every August, September, October on roadside stands, driving to the beach, at the farmer's market and also even in grocery stores like a food line or Harris Teeter, there would always be muscadines. And so I grew up eating them and they are my favorite fruit. Now blackberries are going to have to compete because we make a lot of money off blackberries. So this program doesn't support our breeding efforts, but I really love muscadines. And like Amanda said, they're a little bit different. You know, they're in the same genus as the regular grapes, but they're as far apart as you can get. They actually have like a different chromosome number. Even so, it's a little bit like a donkey and a horse. Muscadines being a horse and grapes being the donkey. So anyways, I'm really passionate about them. I think they're a terrific crop and something kind of a fall crop. That could be a nice compliment to a lot of your berry growers that have a summer crop,

[McWhirt] Right, absolutely. So, we're here speaking today at the tail end of August. Tell us about kind of what's happening in the field right now or what you're doing. Are we harvesting muscadines? What's going on?

[Worthington] Well, we're just about to start. The season for muscadines, runs about 3 to 4 weeks behind the season for modest vinifera grapes. So that's everything from breaking bud and flowering to the crop ripening. So my colleague Patrick Conner down in Georgia, you know, he is very busy with muscadines during the month of August. For those of us here in Arkansas and in North Carolina, it's really going to be a crop that is reaches its peak during September. So I'm just out there making initial observations right now. But I'll say, you know, it's interesting, we have such a lot of different crops we work on in this fruit breeding program. And a lot of them, the time that they break bud and they start getting going in the spring is really dependent upon chill requirement and they're pretty narrow ranges of adaptability. For muscadines, I mean, we get 1000 chill hours here, so it's hard to assess. But my understanding is that really they have maybe 100 chill hours. So, the same cultivars that work well for us here are likely to work well for somebody in Georgia or even North Florida down on the Gulf Coast. It’s maybe an issue of different cold tolerance and different disease susceptibilities that would kind of shape the range of something’s adapted rather than chill.

[McWhirt] Yeah. And I'm glad you brought up that issue of adaptability, because we had some interesting experience here in Arkansas last year where we –

[Worthington] – That’s one word for it hahaha.

[McWhirt] – where we had some really extreme cold weather events in February where, you know, temperatures got well below zero to as close to -20 in some parts of the state. So, what was the impact of these really cold, abnormally cold temperatures and during dormancy?

[Worthington] Yeah, it's interesting. You know, if you look at the literature on muscadine grapes, you'll see that they are hardy to about ten degrees Fahrenheit, people say. So here where we are in Clarksville, you know, kind of in the foothills of the Ozarks, we're kind of at the range for where you would want to grow muscadines commercially, kind of out at the edge.

[McWhirt] At the northern top.

[Worthington] Yeah, it's kind of similar to how it would be at, you know, the western Piedmont of North Carolina, I think comparable to. So, we frequently see cold damage, but not to the scale that we thought in February 2021. I was sitting there, you know, working in the office, of course, most of the winter when everything's dormant anyway. But watching the temperatures like, you know, god this is going to be bad and indeed it was. So probably 85% of the vines and the vineyard here in Clarksville got killed to the ground. I think it got to about -15 Fahrenheit here at the worst. It was a selection opportunity. And like, you know, I'd put a lot of tags on seedlings that survived the cold. And I also have - we'll talk about potential releases later - but I had a fresh market selection, but I had my eye on but didn't seem to have any major damage. So that's all positive. The fresh market cultivars that are available right now, none of them did very well here in the cold. You know, most of them got killed to the ground, that's to say that we had to retrain them from the base, not that the vine was entirely killed and we had to buy a new vine, but you'll have to kind of train a sucker back up and then that set you back basically three years on production. I think we're only two years behind because we really hustled and they had a good root system, so they got up faster. But the two real standouts were Carlos and Noble here and in the Southeast Production Guide, that Noble had been listed as very hardy, but Carlos only as moderately hardy. And I'm here to push back against that. Carlos just is an exceptional vine here. It always looks really good. Just super vigorous, great health. The issue that people have had with Carlos in the past that has kind of caused people to maybe hedge their recommendations around hardiness, I think, is that it breaks bud a little earlier than the other muscadines. So - I forget what year it was, maybe 2007 or something like that. There was a freeze around April, around Easter time in North Carolina that really hit a lot of the Carlos that had been planted in eastern North Carolina where it didn't affect the later breaking bud stuff, but for mid-winter hardiness for like absolute cold temperatures. To me, it can't be beat you know, it had hardly any spur damage even. I was really looking good.

[Cato] So you mentioned cultivars and you mentioned fresh market. So I know earlier you talked about some other markets, but can you talk about where that split is for maybe the fresh market versus the processing? And what are some commonly used cultivars or recommended ones?

[Worthington] Sure. You know, it's interesting to me, you know, our program, we're mostly focused on fresh market, although we have some interest in processing cultivars also. And I have mostly enjoyed muscadines in their fresh market form throughout my life. But there is a very big wine industry and you can make some nice wines with them. And that's probably what the bulk of the industry is, particularly in North Carolina and here in Arkansas. It's a lot of processing, production and less fresh market. So. The big processing cultivars are Carlos, which dominates on the bronze or the white grape side of things, and then Noble is the biggest one on the black side. I think Carlos is bigger in general. One thing that is a challenge for processing muscadines and making wines and juices is color stability. Different kinds of anthocyanins. You know, anthocyanins give all of the crops that dark color, you know, whether it's a blueberry or a blackberry or a grape. And the kinds of anthocyanins vary in their stability. So the kind of anthocyanin in a muscadine is just about the worst that you can possibly have for browning and wines. So that, I think, is a struggle. And I know a lot of muscadine wine producers will use Carlos and then maybe even add a little bit of vinifera for coloring, you know, to give it that red color because then it will not turn ugly and brown and storage. But Noble is the biggest black cultivar.

[Cato] Okay. And so what about fresh market cultivars?

[Worthington] So Fresh Market, there's a lot of cultivars out there. The most important program that's been active recently has been the University of Georgia program. So they have a number of really nice new releases like Paulk and Lane and RubyCrispare their newest black releases out of there and Hall for a Bronze. Summit is another bronze that's really popular and Supreme is a really good option that a lot of people like for a black. One thing I would caution people about with Supreme is although I think Supreme is a fabulous grape, really nice texture on flavor, big size, it's a female. So if you are a homeowner who's interested in planting muscadines, you need to make sure you plant a pollinizer. Whereas, you know, most of the new releases, I think, Patrick, I can speak for Patrick Conner and for myself. We probably wouldn't release that female at this point that we're only going to release a perfect flowered selection where you don't need a pollinizer vine. But a lot of the older ones do need it. And I'll say Carlos and Noble, they're perfect flowered. So for processing, you don't need to worry about a pollinizer for them.

[Cato] So you talked about temperature ranges. We talked about cultivars from out of Georgia, North Carolina. How worried should a potential grower be that's in somewhere in the southeast of just choosing one based on how good it's going to taste? Is there a lot of worry about hardiness? Is there a great source to go to try to understand the hardiness for these?

[Worthington] You know, it's interesting. There's not been as much research done as there should be on hardiness. So that's an area that I really want to tackle in the future. The kind of hardiness that we see in most muscadines or the kind of cold damage is really different from grapes and bunch grapes. Most of what you get as damage from winter injury is damage to the buds. But in muscadines, the kind of damage that we get is really vascular injuries. So it's almost

like the vine doesn't winterize its irrigation system and you have this freeze thaw cycle that's damaging those vascular tissues. And so instead of having just a weak crop, instead what you get is a whole cordon of your vine that dies or it gets killed down to the base because it's got this freeze thaw injury in its vascular system and it just can't move water up to the crop. So we actually even had vines that looked okay when they broke bud last summer after that cold event and then totally collapsed when they were trying to ripen a fruit because, that damage was manifesting itself. So it's a little bit harder to in a controlled kind of laboratory setting to measure that vascular hardiness. But there are methods for doing it. And, you know, I'm kind of looking to partner with some physiologists on doing that kind of work in the future; to do more controlled work. I based on what I saw, I don't think that there is a bulletproof, fresh market option right now. You know, for that, you could say, oh, it's not going to get any cold damage if it gets below zero. You know, if you are a homeowner, then that's probably fine for you. If you're a commercial grower, then you just need to recognize that there's going to be some cold damage if you're growing in an area like the Ozarks or like the foothills of the Appalachians and just kind of recognize that. We certainly are working on breeding for cold hardiness here. Like I said, I have an advanced selection that, you know, hasn't been tested super broadly in grower's fields, but I've been really impressed with what it did here. I also started crossing this year for the first time with some wild muscadines from outside the farm here. You know, it's interesting, I kind of did a project recently with a graduate student where we were looking at diversity of muscadine populations from across the southeast because they're native to this area. And virtually all of the muscadines that have been used to form our modern breeding programs came from maybe 10 to 20 initial selections. And most of those 95% of those came from the eastern coastal plains of North Carolina. So there's really kind of a limited genetic base. I mean, they'll extend up north to like Maryland and then all the way west to Oklahoma. They're down on the Gulf Coast and Florida. And so we really discovered through this graduate students project that we haven't utilized all the diversity that's out there. So we do have wild muscadines that grow here in the Ozarks, and there are wild muscadines that grow on the foothills of the Appalachians as well. And probably we need to do a better job exploiting those and using them in our breeding programs to increase cold hardiness and maybe through some crosses with vinifera grapes, too. But that's a challenge as we'll discuss later.

[McWhirt] So we talked a little bit about cold hardiness. But I think one other unique thing that I know you're interested in and that is distinguishes muscadines from vinifera, is sort of a texture and flavor. And so can we talk a little bit more about can you describe what is unique about muscadine flavor and texture?

[Worthington] Sure. I mean, they have, I think a really unique and good flavor. How would I even describe it? Grapey. Floral. You know, I, like, pick a bunch of muscadine and take them back to politic around campus at Fayettville. They'll drive an hour and a half back from the field station here. And my car is very aromatic after in a way that's very different from the other crops that we work with. So they have a very intense aroma and flavor. I think it's really appealing. I know that it can be somewhat polarizing, but I tend to think that those people who think they

don't like it, would like it, if they had it in a different textural background. The texture is a challenge. There are improvements there. They have a real thick skin. Traditionally, they vary in how much they're edible, but they can range from anything like trying to eat shoe leather to, you know, just kind of closer to a table grape, but still thick. And then they have a flash that it's a slip skin traditionally like kind of a concord grape and the flesh is a little bit softer or kind of gummier than a vitis grape. I've heard it described a number of ways that are all really appealing. So my grad students tell me that it's like an eyeball, also an oyster, you know, just flying off the shelves. So that that, I think, is the challenge to improve the texture. Nobody wants I mean, not nobody. There are certainly people who do want kind of the traditional muscadine flavor and texture and. But I think a lot of people don't want to have to spit out the skins, you know, and then spit out the seeds and all that. So if we can bring the texture to a place where it's a little bit more familiar to people, non-slip skin, a little bit firmer, kind of crisper, flesh thinner skins. All of that is going to make it a more appealing product. And I feel really confident that if we can do that and work on the texture, that the flavor is going to be a plus. And one of the things that leads me to think that is our experience working with highly flavored table grapes. So we've had a bunch grape program here for many years, and the primary success of our bunch grape program has been in partnering with International Fruit Genetics, or now it's IFG in Bakersfield, California, on the development of Cotton Candy and Candy Hearts and all of these kind of highly flavored Lambrusco Muscat type flavors that they have together on those grapes, and they sell cotton candy grapes, you know, at a premium. People with traditionally assumed wanted a neutral, sweet grape. And I think they've proven that that's not the case, that people are really open to a fun flavor if it's in a texture that is palatable to them.

[McWhirt] Absolutely, I think the flavor is super unique, and if you've never had one, it's just a completely different experience. And it's nothing like eating, you know, the typical green or purple grapes that you get from the grocery store. And so I do feel like there's a ton of room for consumers to really appreciate the muscadine has to offer there in the flavor aspect.

[Worthington] Oh, yeah. Yeah. I think definitely. You know, one of the challenges and we'll talk about challenges, for muscadines a little bit more, I think is how to market them. You know, again, a lot of people who have never heard of a muscadine grape and then a lot of people who have heard of the muscadine grape feel a certain way about it, you know, based on like experiences they've had with older cultivars. There are plenty of newer cultivars like Supreme that I mentioned earlier, and RubyCrisp, especially the newest cultivar from Patrick Conners program in Georgia. They have a terrific texture. It's very different from, you know, the processing type cultivars and the old ones like Nesbitt. So we need to get muscadine kind of a better reputation somehow and differentiate the product from these older cultivars, you know, because you'd sell them just green ones and black ones. Right? And so, like, how do you tell a consumer? No, but this one's different. This one's, you know, something that you'll like more and you don't have to spit out the skin. It's difficult to get that across to people sometimes. So I sometimes think, like, I go back and forth on how much do you want people to even think of it

as a grape? You know, like because if you want, if you bite into a muscadine and you are expecting, you know.

[McWhirt] The same experience as like a typical grape.

[Worthington] Yeah, you're going to be confused, like trying to take a drink of a Diet Coke. And it's of course, like that's confusing. You might like most those, you know, but you might be confused. And so I think that we really want a maybe just not even mentioning grape in the name is the way to go and to think of it more as a fifth berry after your strawberries, blueberries, blackberries and raspberries. So I'm not sure what is the appropriate way to do that.

[Cato] It seems like there's a lot of superfoods and things like that out there that people will accept a pretty poor eating experience with. And so it feels like –

[McWhirt] if they think that there's a health benefit, that they think there's a health benefit.

[Cato] And what do we know about berries? Right. They're super good for you. And so do you know of any, like, research on that side of the muscadines?

[Worthington] Yeah, there definitely is a lot of research going on. Muscadines, they're very high in a lot of nutraceutical compounds super high in anthocyanins. So with those big thick skins that can fit a lot of anthocyanins in there, which are supposedly antioxidants within the seeds in particular, there are a lot of nutrients. I'm forgetting even the names of all of them, flavanols and all of those. I mean, I don't work specifically on nutraceuticals, but there's been a lot of interest in muscadines for their health promoting properties for anti-cancer research, gut health research. My understanding is that there's a big study that's been going on at Wake Forest University, at the medical school, working on health benefits, of muscadine grapes. So probably that is something that could be fit into the marketing campaign similar to what people have done with blueberries in the past because. Yes, absolutely. They are a very healthy food for you.

[McWhirt] Well, I think we definitely ought to give you a time to kind of talk about what you're doing specifically and a little bit more on this marketing side. But I feel like we've failed to mention from the grower's perspective why they might want to be growing muscadines. And this is probably something that maybe Aaron can comment a little bit on. Of the difference between growing a muscadine vine versus some of this vitis vinifera and how well adapted and kind of a pest management, that kind of thing.

[Cato] Yeah. So we actually had a really good episode of the Southern Fruitcast on before we got Phil Brannen on from the University of Georgia. And you know, the biggest takeaway is that growing vinifera in the southeast is just like a moving target. And so that's why a lot of it's just wine grapes and, you know, some years here at the station, right? The table grapes just don't quite make it, even though that they're heavily protected with fungicides and the likes. And, you know, muscadines aren't quite the crop that you can't do nothing to. So you do need to protect them from things like black rot, things like grape root borer, or but it takes a lot less effort to get to the end of the season. So, you know, getting outside of the environmental woes that we have

these days, a lot of the past really just aren't there. And they, you know, it's a co-evolved with a lot of our native pests, unlike vinifera. And so there's a lot less on the input side to get to the end and have a good product. Although there are inputs and we do have a really good southeastern guide at the Southern Region Small Fruit Consortium.

[Worthington] Yeah. This year, I mean, you know, we're a research program and so we want to see some disease. And so we try and do a reduced spray program here so that we will see things like black rot and we definitely see it this year. So we know we did a good job with reducing our spray program to the point where we see black rot. There's some resistance, some differences and resistance among cultivars too. And if you were to go to that Southeast production guide, some of that information is listed there. So we're definitely selecting for foliar health there. But I think, you know, Aaron makes a good point that yes, it is good to have a spraying program for muscadines. I do think that that's probably a crop that you could grow organically more than you could a lot of other fruit crops in the Southeast, you know, where I wouldn't ever advise anyone to try and do an organic peach program or something for instance. So, yeah, it's I think, pretty easy in terms of the pest and disease management as far as that goes for fruit production in the Southeast.

[Cato] Well, absolutely. Compared to especially some of the other berry crops, you know, blueberries is usually what we point to as almost you can almost do hands off of especially the northern regions of the southeast. But, you know, Spotted-wing drosophila has made that, you know, really where being organic can be hard at times but not really an issue in muscadines, you know.

[Worthington] Thank goodness for thick skins. They're doing something anyway.

[Cato] And then the biggest pests that are in grapes are in the vinifera grapes are just not the way about phylloxera; you know they co evolved with phylloxera forever. Pierce's disease. Not so much an issue. Grape Berry moth will get on it, but it's pretty rare and it has to be a really high risk situation and then Grape root borer - it happens. But it's still not as bad as it did for us. So yeah, definitely something I think someone can put it, especially alongside other small fruits. I know we already kind of mentioned that it comes off at a different time of year. So different labor needs at that time of year. So it does really work in in concert with other small fruits well.

[Worthington] Yeah, that's what gets me excited about muscadines, really, is that I could see this being just a terrific crop if the market evolves and if the right cultivars are out there with the right quality for somebody who is a blueberry or a blackberry or a strawberry producer to have a fall crop, you know, whether you're a shipper marketer or you're going to take it to a farmer's market, you know, there's nothing that we see in the Fayetteville farmer's market for grapes right now. And so, I mean, certainly somebody could come in with muscadine grapes and I think they would make a killing at it.

[McWhirt] So a lot of exciting things. Crop that's very well adapted, unique flavors, potential health benefits. But we've touched on some of these kind of limitations of consumer palatability

to a different texture and, you know, some of the skin. So what are you working on that is you're hoping is going to be the exciting new thing that's going to push muscadines forward?

[Worthington] Okay. Well, I'll give a little bit of background on our program. First of all, this is a program that John Clark started in 2007. So he had been working on bunch grapes for a long time with the hope of building an Eastern table grape industry. And that has been a bit of a elusive dream, maybe hard to compete with California, where it doesn't rain. So he shifted his focus towards crossing in muscadine grapes. And he had been working with a lot of the same cultivars that a lot of other people have been working on crossing with, like Supreme and Tara and also Southern Home, which has a little bunch grape in the background. A big dream for us in the muscadine industry has been the development of seedless-ness. And so that's an area where I'm very focused now. Jeff Bloodworth is a private breeder. He had his own independent breeding program for a long time, and it was recently acquired by Gardens Alive. They've released two seedless muscadines now: RazzMatazz and Oh My!!. RazzMatazz is like 75% muscadine 25% vinifera by pedigree and Oh My! maybe like 88% muscadine and 22% vinifera. So Oh My! looks a lot more like a muscadine. To me, RazzMatazz is a nice grape, but it doesn't look much like a muscadine. It's like a little champagne grape kind of. So, we have acquired the rights to cross with their material, with just material. And we started doing that crossing in 2017. So just now I'm kind of getting my stable of seedless selections through. But I really think that's going to be a game changer for the muscadine industry. I mean, I know that the seeds are healthy and all, but you're going to spit them out or swallow them intacts. And I mean, they're terribly bitter. Hardly anyone wants to chew those things up. So if you have a skinless, edible, and no seed, then all of a sudden you have something that is a very convenient fruit. So I've been working on that, and that's an area of really important focus for me. Cold hardiness also is important, of course, I think we're the breeding program operating at the most challenging environment in terms of cold hardiness that, you know, ever existed. So that's a big area for us. Dry stem scar, is also something that I'm working on hard that's instead of a bunch grape which you harvest in clusters, muscadines you kind of pull off berry by berry. And they vary in how clean that scar is and how cleanly they abscise. The post-harvest life is much, much better if you can get a nice dry scar on there. So I'd like to breed a muscadine that has such a clean scar you could harvest it with a blueberry picker. That's my dream. So I'm working hard on that area. We also are doing some things like kind of fun variations on flavor and shape. Got it. The football shaped muscadines just in time for football season in September. Those are areas of focus for us. We also - we're getting close to making our first releases. I've had kind of two advanced candidates for a while, and it's just been an issue of getting enough plants bulked up to offer for sale. But it's my intention not this fall, but the following fall to release our first fresh market and our first processing cultivar. So we've got a black fresh market grape that just to me is outstanding in terms of its vine health and consistency and productivity flavor. It's similar probably in quality to something like Supreme but perfect flowered and a lot better vine health and cold hardiness. So I hope to have that out soon. And then we also have a black processing

type that seems to have some different winemaking properties from Noble as a complement to it.

[Cato] So these will be full skin, still the seeds though that.

[Worthington] Oh yes. Oh, I should mention that yes they are both seeded and the processing one. You know we're not concerned with texture for processing so I wouldn't - I wouldn't say that much positive about the texture of the processing one. But the fresh market one, I would say, definitely does have an improved texture relative to some of the older muscadine cultivars, but it is still a slip skin and you know, it still has that muscadine crunch.

[Cato] Yeah, I feel like people wouldn't be too turned off by it if they could chew the skin with it. Because like, if you eat an orange, it's, it's more off putting to me the texture is than a muscadine.

[Worthington] And I'm not bothered by it. My mother always told me to eat the skins on my muscadines, and so I grew up eating muscadines skins and they don't bother me. I like them. But I mean, the seed does bother me. That's a bridge too far.

[Cato] So you mentioned two falls from now is when you hope to have releases out –

[Worthington] - well so fall 2023. Not this fall but next fall yes.

[Cato] But this fall we have a muscadine meeting up here, right? And it's going to be here at the Clarksville station. I do not know –

[McWhirt] - September 19th. Monday.

[Worthington] Monday, September 19th, from 2 to 7 p.m.

[Cato] So if people have more questions about your muscadine releases, will there be will there be answers on Monday, September 19th?

[Worthington] Absolutely, there will be answers and we'll do a little field tour. I'll talk about the program. Renee Threlfall who is a viticulturist and enologist we collaborate with at the food science program. She'll talk about her research on muscadines. We're going to have Greg Ison coming, who is the co-owner of the biggest muscadine nursery in the country based out of Georgia. And we're also going to have Jeff Bloodworth, the breeder who developed the seedless cultivars coming. So should be a good field day and a lot of fun. Yes. And we're going to do a tasting and say, yeah, that's right. We're going to do a tasting of the new fresh market selection and a couple standards. So we'll see if people like it better.

[McWhirt] Well, thank you so much for joining us here today on the Southern Fruitcast. Very glad to have you finally on the on the program. We're looking forward to a fruitful muscadine season. Ha ha ha.

[Worthington] Thank you for having me.

[Outro-Cato] Thanks for tuning into the Southern Fruitcast. Our episodes are hosted by Pod Bean and also can be accessed on the University of Arkansas Extension website at uaex.uada.edu/southernfruitcast . 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.