

Fall Concerns and Care for Apples and Grapes

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SPEAKERS

Christa Hartsook, Joe Hannan, Olivia Hanlon

- C** Christa Hartsook 00:15

Hello, and welcome to the Small Farms Podcast, a production of the Small Farms Program at Iowa State University Extension and Outreach. Our podcast covers the opportunities and challenges associated with rural life.
- O** Olivia Hanlon 00:29

I'm Olivia Hanlon, Farm Food and Enterprise Development Extension Education Specialist, and welcome to the Small Farm Sustainability podcast. With me today is Joe Hannan, Commercial Horticultural Field Specialist with Iowa State University. Welcome Joe. Great to have you back on the podcast today.
- J** Joe Hannan 00:46

Yeah, how's it going, Olivia?
- O** Olivia Hanlon 00:48

Good. How's it going over there?
- J** Joe Hannan 00:50

I'm doing great. So you welcomed me back, but is this your first time hosting a podcast or just the first time that you and I have gotten a chance to get together?
- O** Olivia Hanlon 00:59

Just the first time you get the pleasure of visiting with me.

J

Joe Hannan 01:02

Ah, so you've been doing a few of these here now?

O

Olivia Hanlon 01:05

Just a few.

J

Joe Hannan 01:06

Gotcha. So and just in case any one is not aware, you're the person that does all the awesome work behind the scenes to make me and Christa, and everybody else sound awesome, right?

O

Olivia Hanlon 01:16

I try to anyways.

J

Joe Hannan 01:18

Yeah, you do. As I get lots of comments back from how good of editing you do. So everybody knows me, Olivia, but tell us a little bit about you. Because I don't know you very well.

O

Olivia Hanlon 01:29

Right. I recently started here with the Farm Food and Enterprise Development Team in May after graduating from Iowa State, and I work largely with the Small Farms team on things like this podcast and our newsletter, along with some of the social media things that go out of our office as well.

J

Joe Hannan 01:48

So you keep yourself busy.

O

Olivia Hanlon 01:50

I try to.

J

Joe Hannan 01:51

J Joe Hannan 01:51

Good.

O Olivia Hanlon 01:52

So Joe, today we are talking about apples and grapes. In particular how fall conditions impact these plants during the winter and next year.

J Joe Hannan 02:02

Yeah, so there's a lot that has gone on this year, to say the least. And definitely some of our fall conditions and possible winter conditions could be impacting next year's crop. So I thought it'd be a good idea to just take a few minutes to talk about that. One thing I really want to make sure everybody understands though, what we're talking about today is a snapshot in time. A lot can happen obviously between now and next spring so today's podcast and a month from now, it's probably not going to be worth the darn, but it gives us a picture here now anyway.

O Olivia Hanlon 02:38

So we had a bit of a dry late summer and fall, what are we looking at for our impact on next year's apples and grapes from that?

J Joe Hannan 02:47

Yeah, so it was warm, and it was dry with some decently cool nights. That is fantastic conditions for developing very high quality product, whether you're talking to apples, or grapes. Those warm days allow for sugars, those cool nights allow for those acids to mellow out. And no rain allows for no late season disease to set in on the fruit. Everybody on the farmer side of things, we're just praising how good of quality that we had coming in. On the other hand, through much of central and western Iowa we're in D1, D2, D3, drought throughout late summer and into fall, and still ongoing in some areas. And those dry soil conditions means that the apples and grapes are putting their energy, water, and emphasis into maturing this year's crop at the expense of developing next year's fruit buds. So what that means is next year's fruit buds may either be fewer and number - IE less number of products out there to grow and develop for the season, and/or it means the fruit buds are going to be smaller, which means smaller fruit smaller clusters go in through to next year. So there certainly could be an impact, maybe even a significant impact, on how much total yield potential we have going into next year. The good thing is apples and grapes generally over produce the amount of fruit buds that they have going into next spring. But we want to be really mindful this winter and even next spring as we're doing our pruning and doing our cluster thinning next year to make sure that we're not over pruning and over thinning the crop, make sure that we still have enough good fruit buds out there to develop a full crop for next year.

O Olivia Hanlon 04:47

Alright so we're definitely looking at some effects on those fruits themselves. Are there any

might, so we're definitely looking at some effects on those plants themselves. Are there any concerns that we've got with the plants moving forward?

J Joe Hannan 04:56

Yeah, I think Olivia that we also have to be very concerned about the root system or in the crown of the plant in the soil itself, you know, dry soils will get colder than wet soils. And so if we continue to be dry, and frankly, the drought monitor says we've gotten a little bit better, though I don't necessarily fully agree that we've recovered as much as we have. But if our soils continue to be dry, that means that the soil temperature can get colder than what we would normally expect. So any cultivars that are generally more susceptible to cold injury are now more likely to be injured over the course of the winter. Grapes, I'm not as concerned about that, as I am with apples, we still have a lot of dwarf apples on bud nine, which we know is very susceptible to cold injury in this type of situation, something I'm definitely concerned on the apple side of things, and they'll semi-dwarf sitting on bud nines that they could get injured. If we don't get any water recharge. We definitely have some concern with the apples on the high densities. But even with the apples that are semi-dwarf. grapes, where they're deep rooted, the ground in some of these areas in central Iowa and further into western Iowa is really dry, really far down. And I'll just give you an extreme case. I'm situated personally right in the middle of this drought area. And we test dug a replacement well and down 45 feet and there is no plant available water. So when you don't have any water within that root zone, you definitely need to be concerned that you're going to have some injury or loss to those roots.

O Olivia Hanlon 06:52

Absolutely. So looking at that soil moisture, are we expecting things to get any better anytime soon?

J Joe Hannan 07:00

I don't know, maybe ask me that in 2021. Definitely not in 2020. It's just configured down now.

O Olivia Hanlon 07:07

Everything gets better after 2020. Right?

J Joe Hannan 07:08

Yeah, everything looks better next year.

O Olivia Hanlon 07:10

Yeah.

J

Joe Hannan 07:11

So we're looking at a strong La Niña going into winter. And so if I understand correctly, that means we're looking at a little bit warmer and a little bit drier conditions going throughout winter, yes, we can still get some rain, yes, we can still get some snow. But the overall pattern is to be warmer and drier. So are we going to get full soil moisture recovery, you know, if we tend to be drier that would suggest that no, we're not going to fully recover. But again, a lot can happen between now and throughout the course of the season. And part of that also plays into is our soil frozen? So if we stay warm, and our soil keeps thawing and freezing and thawing and we never really get a deep freeze, and we get a little bit of snow, we get a little bit of rain and the ground happens to be thawed at that time, we would get some recovery on on water. But if the ground tends to freeze up when we get dry and stays frozen all season, any moisture that we get throughout the winter is really not going to be a big help. So is it going to get better? I don't know I don't have the future, or I don't have a crystal ball. But you know, hopefully, we'll update again here as as things develop over the course of the winter.

O

Olivia Hanlon 08:33

So if we assume that they're not going to get any better, is there anything that we can do about it?

J

Joe Hannan 08:41

Okay, so when we look at fruit bud either on our apples or on our grapes, it doesn't really matter. At this point, no, we needed to put water down back in late July and August. That's when the irrigation water should have been put down to help develop next year's fruit buds as well as to fully size of this year's crop. So on the trellised apples, most of those or all of those in the state are irrigated. So those I'm not really concerned about. There's only a couple of those orchards where they're pumping a lot of water onto other crops where maybe they could have run their well dry or something like that. But for the most part no. Our semi-dwarf trees, no, again, nothing that we can do now at this point, and likewise grapes. Few if any of the vineyards across the state are irrigated. So you know it is what it is right now. So I guess from the fruit bud development no, from rehydrating the soil, can we bring soil moisture back up across the entire field through irrigation? The answer is no, probably not. But it takes a massive amount of water rehydrate that entire soil profile across the field. Now we can go and run some drip irrigation water down right along the tree row right along the crown of the plant, and kind of keep that small area hydrated. But the reality is roots are not just in a two or three foot radius around the plant, they're spread out throughout row to row. So putting a little bit of drip irrigation down, no, it's not really gonna go into help. And frankly, in some places, like here again, in central and western Iowa, it's so dry than any water that we put down, it's going to get whipped away from those plants anyway. So you can put it down, but it's not going to stay there very long. One thing that I would look at and consider doing is in January, February, if we get a thaw and warm up for a couple of days, and we haven't gotten snow or rain or anything to kind of rehydrate things, depending on you know, how your irrigation system is set up, maybe coming back in and putting in a little bit of water down through your drip system right around that crown or through your drip lines, and rehydrate the soil right around the base or crown of that plant in order to kind of hydrate and keep it from getting too cold when things refreeze, remember that January, February tends to be those time periods where we get those

really, really cold temperature bursts. So from that point, there's a little bit of something that you could do, but more or less, no, there's not much that we can do at this point. And again, a lot can happen between now and then. Olivia, we should probably get back together in like January and re-talk about this and see if we need to make a recommendation for dumping a little bit of water on.

O Olivia Hanlon 11:36
Of course.

J Joe Hannan 11:37
We're talking about dry soil conditions here in central and western Iowa. We go to Eastern Iowa, they don't have this problem. They had plenty of water for fruit bud development, they've got plenty of soil moisture going into fall, going into winter. I guess talking to one of our corn soybean guys over in southeast Iowa saying they're basically at 100% soil moisture capacity again. So it's kind of a new point for those on the eastern Iowa side. Probably should mention that up front and just told them go on to the next podcast.

O Olivia Hanlon 12:07
That's all right, we got to include those Central Iowa folks too.

J Joe Hannan 12:11
Some days. Yes, I'm biased.

O Olivia Hanlon 12:15
So switching gears here, talk to me a little bit about the fall derecho cleanup.

J Joe Hannan 12:22
Yeah, so we're wrapping up apple harvest, grape harvest has long since then done. And be frank, we lost a lot of apples due to wind damage, a lot of our grapes were damaged and there's quite a few that were not harvested during the season because they were not in a condition where they were usable product anymore. So we need to figure out or come up with a plan to get those fruits out of the field. That fruit is a reservoir for pathogens to overwinter on and come in and reinfect your fruit for next year. So we want to get it out of there and kind of clean up the field the best we can. On the grape side of things, my recommendation had been to just let stuff hang until after we get a frost and leaves start dropping off the leaf. Now with those grapes come in, harvest them, preferably harvest them and throw them into buckets or containers and haul them out of the field and dispose of them that way. But I know there are some people that will just harvest and drop them on the ground. And likewise, the apples are

already on the ground, from being windblown. So in the case where they're on the ground, you know, pathologists might want to say well come in and rake them up and scrape them up and haul them out of there, and we all know that's not remotely feasible under any situation, I don't think. But there are things that we can do to get those dropped apples and grapes to break down faster. One thing would be to go through and set your mower really low and use your mower to kind of break up and chop stuff up and get things broken up in smaller pieces. The smaller pieces will break down faster, and therefore not overwinter because they broke down and not providing food source. So a rotary mower will work it'll do the job, it'll chop stuff up. But if you have access to a flail mower, a flail mower will do a lot better at destroying stuff and breaking it up and basically making a pulp out of anything that's still left out there. A flail mower will break stuff up much, much better than a rotary mower. So if you've got access to it, use the flail mower to just chop and grind stuff up and it'll disappear really, really quickly. I get quite a few people that will ask me about putting nitrogen down. You know we always say don't put nitrogen down late in the season, that'll invigorate plants and cause them to not go into dormancy. It is October 16, the plants are going dormant regardless of a little bit of nitrogen application. The nitrogen that we're putting down here is to help feed the microbes that are going to break down any of that leftover apple and grape product that is on the canopy floor. So just a real light application can actually help cause that fruit on the ground to break up faster, thereby not allowing pathogens a food source to overwinter on. So there is some benefit to actually put a little bit of nitrogen down now.

O Olivia Hanlon 15:21

That is great information for everyone to know. Joe, is there anything that we did not cover yet today that you'd like to add?

J Joe Hannan 15:30

Oh, probably so, but I guess we can do that next week.

O Olivia Hanlon 15:34

Of course, we always need you to come back, right?

J Joe Hannan 15:36

Yes, I should be on here more often. I just been a little slack, but this should be a good start for fall cleanup and things.

O Olivia Hanlon 15:44

Absolutely. Well, thanks so much for being on Joe. Hopefully, everyone learns as much from you as I always do. It's always great to have you and I look forward to having you back at some point.



Joe Hannan 15:57

Thanks for having me on. Thanks for doing all the background work and I'll talk to you in a week or two.



16:02

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