

Fall Frost Warning

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SPEAKERS

Speaker 3, Christa Hartsook, Joe Hannan

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- 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. I'm Christa Hartsook, Small Farms Coordinator with Iowa State University Extension and Outreach. Welcome to the Small Farms Sustainability Podcast. With me today is Joe Hannan, Commercial Horticulture Field Specialist with Iowa State University Extension and Outreach. Joe, welcome to the show. It's great to have you back.
- J** Joe Hannan 00:48
Yeah, Christa, I think it's been a little while. So good to be back again here today.
- C** Christa Hartsook 00:52
That's great. Joe, we are recording this the very last part of September here. And we have undergone a huge temperature swing in the last few days with even more coming.
- J** Joe Hannan 01:04
Yeah, it's a little cold sitting here wearing my sweater and my stocking hat and wishing I had more clothes on.

C Christa Hartsook 01:11
So I'm looking at this longer forecast here for towards the end of the week. And it looks like we potentially have some freezing temperatures.

J Joe Hannan 01:19
Yeah, looks like the early models or some of the models right now are showing temperatures dipping down to 32 to 33 degrees around much of the state. You know, this is Monday when we're recording. They're looking for those cold temps Friday and Saturday mornings. But I thought it was just good to get on and get out there and let people know that temperatures could be dropping, and just talk some tips and tricks for dealing with things for a night or two. Because the reality is it's still early October, we're gonna have some good warm weather. And realistically, we have two to four weeks of good sunlight for growing some of our warm season crops and many of our cool seasons.

C Christa Hartsook 02:00
So let's get into some specifics here. If we are attacking, mitigating any potential damage for our warm season crops, what do we need to think of there?

J Joe Hannan 02:09
So Christa, when we're talking to warm season crops, I mean, the tomatoes, the peppers, melons, cucumbers, green beans, those are all the warm season crops. And they are sensitive to temperatures at 32 degrees and lower. So while they're growing potential is just due to daylength is starting to get pretty short. Again, we still have a couple weeks where they can provide us some product yet. We only have a couple cold nights at 31, 32 degrees. You know, it's worth giving them a little bit of protection if we can. So we're looking at product providing protection and the fall, we're really generally looking at like a real cover. If you're outside something like Reemay or AgraBond, let's just spunbond polyester material super common in the fruit and vegetable production industry.

C Christa Hartsook 02:59
And Joe, is there a certain time we should put that on during the day, you know, if we're looking at mitigating anything that could happen that found that night?

J Joe Hannan 03:07

Well, today it is cold and windy out. So I would probably say it could have gone on a few hours after the pilots came through this morning. But normally I would look at putting it on by mid-afternoon in order to trap and retain that heat as we go into the early evening hours. So really right after you kind of hit that peak heat for the day, but before you start cooling off outside.



Christa Hartsook 03:33

That makes sense.



Joe Hannan 03:35

And of course, you know everybody just likes to put it nicely the Reemay or AgraBond, I mean, they don't dislike the brand products, they dislike having to use it because of the wind. And you know, you have to make sure those products are down, staked down, and on the ground and no holes where cold air is going to get up into them or warm air is going to sleep out.



Christa Hartsook 03:58

That makes sense. And Joe, I would imagine if we are growing anything within a high tunnel, we've got an easier situation?



Joe Hannan 04:05

Oh goodness, there's so many reasons why I love high tunnels and the wind management is one of them. So yeah, you're in a high tunnel, I still say should only reasonably expect one or two degrees protection from the high tunnel structure itself, it's not really going to give you nighttime cold temperature protection. But putting Reemay or AgraBond or blanket over the plants overnight. Inside high tunnel means not only do you get more protection from that cover than you would outside, so like a cover like a lightweight cover you put outside will give you one or two degrees, that same cover inside is going to give you three or four degrees. So you're going to get a little bit of added value just from moving it into an interior environment. But you also don't have the wind to deal with in the high tunnel you can close down the sides of the high tunnel on the ends of the high tunnel and really keep that Reemay down so you don't have to do any staking or anything like that.



Christa Hartsook 05:00

Yeah, really good point there, Joe. I would imagine it's kind of a good time too to kind of do an overall check on that high tunnel and make sure you don't have any air gaps or anything like that.



Joe Hannan 05:10

Yeah, you know things happen over the course of the season. You can have ground or soil kind of wash away from around the base posts are around the baseboards and other cracks and crevices kind of creep up. Always a fan of a cheap easy solution is just get some bags of wood chip mulch and spread it over any leaks and seals and cracked areas that around that baseboard, it just kind of quickly and easily seal it up fairly cheap and readily available. I guess also be looking at your involve vents, make sure those are all sealed up. I know I've got some of those aluminum shutter vents. And yeah, they work nice, but they don't actually really seal up. So on a cold night, I'm gonna have to still put some Reemay or something over them to get them to actually fully seal up every little bit helps, especially when you're only looking for one or two degrees.



Christa Hartsook 06:05

Sure.



Joe Hannan 06:06

Which in this case is this weekend, it's probably what we're looking at.



Christa Hartsook 06:08

Sure. As it continues to get colder Joe and knowing that we do have some growers out there really looking for that season extension capability within that high tunnel, I'm assuming we've got some options with some heaters too.



Joe Hannan 06:22

Yeah, so heaters will certainly work and help keep the tunnel warm. And if you're growing any sort of trellised crop, a heater is going to be kind of your only option for trellis tomatoes and cucumbers and raspberries, you're just not going to get a spunbond polyester cover over those. You do have issues with airflow at that point and being able to get that heat to really radiate and move throughout that building. So it's going to be a

challenge more so than springtime management, and at that point, you do really have to think am I gonna get enough product in that week, 10 days after that frost to justify running those heaters overnight. Heaters don't cost a lot to run, but you still got to run them, and then you definitely have some fire hazard issues there, and just being able to get that heat to actually move throughout the tunnel.

C Christa Hartsook 07:13
Sure.

J Joe Hannan 07:14
One thing to keep in mind with anytime you're running a heat source, the only part of the plants that are going to get warm is what is indirectly in front of the heat. So the radiation hits the plant and anything behind that plant is not going to get heat. So it's an option. It's not a great option. I guess we'll leave it at that.

C Christa Hartsook 07:36
Makes sense. Joe, let's go into some of our other cropping enterprises that we may have. What about our cool season crops?

J Joe Hannan 07:44
Oh, I think our cool season crops through this early freeze here right at the end of September, early October. The cool season crops are probably going to be fine. We're not looking at dropping down into the low to mid 20s. The cool season is gonna handle light freeze without any problem if that's your brassicas, and that's your greens, especially knowing that, you know we want from 80s and 90s here week to 10 days ago, and we've kind of steadily have decreased in temperature over time. We're going to continue to drop temps a little bit here. So those cool season crops are going to have time to acclimate to the cold water.

C Christa Hartsook 08:20
Sure.

J Joe Hannan 08:22
Honestly for this for this one coming up. I'm not super worried about those at all.

- C** Christa Hartsook 08:26
Okay, good to know, Joe, we've got some fruit crops out there too, that are maturing and undergoing some harvest right now. How are apples and grapes going to handle this?
- J** Joe Hannan 08:38
Well, I think our apples should be fine, they will certainly handle a light freeze likely the fruit won't even freeze itself because it's going to be such a short time that the temperatures are under freezing. But rule of thumb is let it be, let them thaw out, and come back and come back and start harvesting by mid morning at that point. When you get to that point though, if you're going to be storing apples, the first ones in are the last ones to go out in this case.
- C** Christa Hartsook 09:04
Okay.
- J** Joe Hannan 09:04
The longer that they hang out there, the more that they get frosted on and things, those ones are going to have shorter lifespan so get rid of those first and then hold on and sell off the ones that were harvested prior to frost later.
- C** Christa Hartsook 09:18
Yeah, that makes sense.
- J** Joe Hannan 09:20
So and realistically at this point with grapes, all but our late cultivars should be harvested at this point. Any grapes that are out there are likely just hanging out there to make iced wine or a dessert wine a very high concentration of alcohol and sugar and wonderfulness. But a freeze will terminate any further growth and develop maturity on those grapes. So once they do get a freeze, let the grape clusters fall and then go in and harvest immediately.
- C** Christa Hartsook 09:49
Okay.

J Joe Hannan 09:50
Those are pretty simple. The apple ones get a little bit more complicated.

C Christa Hartsook 09:53
Sure, sure. That makes sense. Joe, are there other things that we need to really be thinking about now as we entering this time of the year where we really are thinking more about frost events?

J Joe Hannan 10:05
Yeah. So one thing that I always kind of want to caution when people are starting to talk about frost, whether it's spring or fall, whatever the predicted temperature out for the state is just go ahead and assume it's going to be one or two degrees colder in your field. That's just a really good rule of thumb. So if the forecast was 33 degrees, go ahead and just assume it's actually going to dip lower than that. And so you're not surprised the next morning when it does and you get nipped a little bit?

C Christa Hartsook 10:32
Sure.

J Joe Hannan 10:33
That's always my number one rule. Otherwise, you know, as we're going into fall, we're all starting to clean things up and kind of recover from everything else this past year that we all are aware of, really, with the little bit of cold temperatures that we have, we probably don't have to start worrying about irrigation lines and things too much at this point. What I would get worried about is if you're using an electric irrigation valves, those would be the ones that I would tend to want to get out of there, get those taken out and pulled into the shed, and get them dried out and cleaned up. The irrigation valves operate on just a very small amount of water and some of those valves in the way that they function works. I'd be worried that they do freeze inside and crack or break something. Probably a good idea to get those out.

C Christa Hartsook 11:16
Yep, absolutely. Joe, anything else that we really need to kind of think about or consider as we move into this time?



Joe Hannan 11:23

No, I think it's just wrapping up the season. Take a little bit of a breather after dealing with everything that we had this year and recoup and regroup for next year.



Christa Hartsook 11:33

That sounds good. That's an excellent point for folks. All right, thanks so much for being on Joe. We appreciate it.



Joe Hannan 11:39

Thank you Christa, much appreciated as always.



Speaker 3 11:41

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