

# Spotted\_Lantern\_Fly

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## SPEAKERS

Iowa State University Extension and Outreach, Christa Hartsook, Robin Pruisner, Olivia Hanlon

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- C** Christa Hartsook 00:15

Hello, and welcome to the small farms podcast, a prediction 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

In this episode I visit with Robin Pruisner, State Entomologist with the Iowa Department of Agriculture and Land Stewardship. Today we are talking about the Spotted Lantern Fly. I'm Olivia Hanlon Small Farms Extension Specialist and we hope you enjoy the show. Robin, welcome. We're glad to have you joining us today.
- R** Robin Pruisner 00:46

Thanks, Olivia. It's my pleasure to be here.
- O** Olivia Hanlon 00:50

Robin, this is your first time on our podcast, which is super exciting, so why don't we start with you telling us a little bit about yourself and what you do in your role with IDALS?
- R** Robin Pruisner 00:59

Sure thing. So I'm actually a graduate from Iowa State University and I do have an entomology and Pest Management Degree. I have been the State Entomologist here at the Iowa Department of Agriculture since 2003. Seems like a long time ago now, and I did do a lot of fun things I get to run around look for insects and plant diseases. My group also inspects nursery

stock that is grown to be sold in or outside of Iowa. The State Weed Commissioner and the State Apiarist, or beekeeper, are also in my group. We also regulate the sale of agricultural seed. And last but not least, the latest job that we've picked up is I'm the Hemp Administrator for the state of Iowa. So we are in our third growing season of having a hemp crop that's legal here in the state of Iowa and we license and inspect those growers.

O Olivia Hanlon 01:59

It sounds like you guys stay pretty busy Robin.

R Robin Pruisner 02:02

Yes, we do. All year round, it's kind of fun, it's a lot like farming, where the job has different aspects that we focus on at different times of the year, so we're never bored.

O Olivia Hanlon 02:12

Absolutely. Well, we always love to have the chance to have on ISU alum. So why don't we dive in here, Robin, and we'll start from the top. Can you share with us a little bit about what Spotted Lantern Fly is for those who may not know and a little bit about its history, both in Iowa and throughout the United States.

R Robin Pruisner 02:31

The Spotted Lantern Fly was first found in Pennsylvania in 2014. We believe it probably first came to the United States back in 2012 on a stone shipment as a hitchhiker, and by the time it was identified, put a name to it, and people in that area realized what was going on, it was pretty widely spread in Pennsylvania at that point in time. Right now it's in roughly a dozen or so states to the east of us and is marching westward as fast as it can. It is a plant hopper. It's a big, beautiful plant hopper in my weird entomology opinion, but what it does is that it has its own built in straw so to speak, it pierces the plant and it feeds on the sap of plants. And when it feeds on that high sugar sap it excretes a high sugar honeydew, and then that honeydew can make fruit unsaleable, such as grapes, and because of the sugar content in that honeydew it can attract other insects into the area and also a sooty mold just kind of compounding the issues for those plants.

O Olivia Hanlon 03:46

Okay, and I have to agree with you, Robin. I did see the life stages chart and I would agree they do look pretty cute until you learn what they do. Right?

R Robin Pruisner 03:54

Exactly, exactly.

O Olivia Hanlon 03:57

So you hit on it a little bit but what does Spotted Lantern Fly eat? What do we really need to watch out for them on?

R Robin Pruisner 04:03

It loves all kinds of plants. It's been documented eating, sitting, laying eggs on over 100 different species of plants. It particularly likes the woodies it has an affinity for grape vines, Maple Trees, Black Walnut, Birch Willow, a lot of other trees. It's been seen on everything from soybeans to garden crops. It may have different feeding preferences as the season goes along, but it has a very very strong preference for something called Tree of Heaven. Tree of Heaven is another invasive species that looks a lot like a Walnut Tree when it is smaller. Tree of Heaven can strongly resemble Walnut or Sumac. For me I really like to see the flower structures this late in the summer, then I can easily tell three of Heaven apart from Sumac. Observations thus far show that it probably needs Tree of Heaven to feed on for it to successfully reproduce. So the good news is that Iowa does not have near the amount of Tree of Heaven as the states where the Spotted Lantern Fly is currently occurring east of us. So a big question that we have here in Iowa is we have far less woodlands number one than many other states, number two, we do have some but not a ton of Tree of Heaven, and so I think it will be really interesting to see if the Spotted Lantern Fly is as big of an issue here in Iowa as it has been in other states.

O Olivia Hanlon 05:40

Absolutely. And Robin, I think we may have skipped over this a little bit earlier, but is the Spotted Lantern Fly currently in Iowa? And is it becoming more of an issue than it has been in the past?

R Robin Pruisner 05:52

So we've had our eyes peeled for Spotted Lantern Fly ever since the find in Pennsylvania back in 2014, and we occasionally will have citizens run across something that they think is really unique and send it to us. And here in early July, we had a citizen send in a picture of a perfect Spotted Lantern Fly nymph from Dallas County, and in a heartbeat, I knew exactly what I was looking at. And my staff and I went to that site and we continued to go to that site. In total, we've only found two nymphs, so immature stages of that insect at that particular site. We have put traps up and we are going to continue to monitor that area to see if we have, I'm going to call it hitchhikers, versus a reproducing population. We did a reach out to the public in late July asking people to be on the lookout for this insect, and we were immediately flooded with what felt like a ginormous amount of pictures from people all over the state and outside the state. And they were not Spotted Lantern Fly except for one photo. And it came from Black Hawk County and my staff and I have been up to that site, and we have looked and looked and looked and again I feel like we most likely have a hitchhiker in that area and not a reproducing population yet at this time, but we will continue to monitor.

O Olivia Hanlon 07:19

Okay, Robin, let's talk about that hitchhiker movement there. How does the Spotted Lantern Fly move and how can we make sure we're not transporting it and allowing it to hitchhike?

R Robin Pruisner 07:29

So the insect itself could be on something that we move, though more likely it will be the egg mass of the insect. And then those egg masses spend the most amount of time out in the environment during any given year, probably from September and October through June. The insect is as an egg mass. It's an indiscriminate egg layer, meaning it will lay its eggs on anything and everything. It particularly likes vertical things like fence posts, trees, rocks, it doesn't have to be vertical, but it seems to be popular with it. And it can just look like a smear of mud. It can be kind of a tan party colored when first laid. And then once it dries, it actually kind of crackles up just like dried mud and someone just passing by you won't even notice it, it's there. So when we move things like firewood, campers, lawn furniture, toys, anything that's outside long distances, and I'm particularly looking at you firewood, hitchhiking insects, whether it be the Spongy Moth formerly known as the Gypsy Moth, or the Spotted Lantern Fly, they are very good at hitchhiking along on those objects.

O Olivia Hanlon 08:48

Okay, you talked a little bit about egg mass there, Robin, which leads us into a good talking point. Let's talk a little bit about the life stages of a Spotted Lantern Fly, you guys have some good resources out there that really show it very well. But could you explain to us what their lifecycle does look like?

R Robin Pruisner 09:04

Sure thing. So the Spotted Lantern Fly over winters as that egg mass that looks like a smear of mud. And then in May or June, all depending on the temperature, the nymphs emerge, and there are three stages of nymphs, first, second, and third, that are black with white spots, very eye catching. And that's actually what we found in Iowa in early July. Then the last immature stage the fourth instar, then becomes red, black and white. And then from that it eventually becomes the adult, that when the adult is sitting with its wings kind of clasped over its back and resting, it's a very drab color, tan potty color with some spots and some lines on it. But if it spreads its wings then the underwings are a bright red and those are very eye catching.

O Olivia Hanlon 09:56

Okay, Robin, what are some signs you talked a little about what it looks like. But what are some signs if we don't see the nymphs themselves that we may have a Spotted Lantern Fly out there.

R Robin Pruisner 10:07

If you start to see puckered leaves or a lot of that sticky honeydew and then the ensuing mold, I would start taking a look around for those nymphs and those adults in the area, they're not going to chew on a leaf like a grasshopper does and consume the leaf, they're just going to stick their mouthparts into that leaf and suck the sap out, so the leaves may look stippled or crinkle up.

**O** Olivia Hanlon 10:33

Okay, Robin, you talked about this a little bit already, but what steps should we take if we see or think we have seen a Spotted Lantern Fly? And how can we treat our infected areas?

**R** Robin Pruisner 10:45

Right now, because we are still trying to determine if we have an actual reproducing population in the state of Iowa, we would ask people to capture the insect or take a picture of it, so that we can do an identification of it to make sure it really is Spotted Lantern Fly. Eventually, if we get to the point where we do have a reproducing population, we will move more towards what the other states are doing, and I think their general model is see it, squish it. But right now before you squish it, we'd like to get a good idea of it. Treatment wise, it's mostly a nuisance pest unless you are in the business of raising some of those plants and plant products that we talked about whether it be nursery stock and grapes, and then at that point in time, we're gonna have to connect with and look at the research that's being done in other states in terms of what are our economic thresholds for treatment, and the best times to treat. Right now in Iowa, we're not recommending any treatments for this insect. We're just trying to determine if it's really here or not.

**O** Olivia Hanlon 11:53

Okay. And that all makes a lot of sense, Robin. If folks are wanting any more information about the Spotted Lantern Fly or if there was something we covered today that they have questions on where should they look or who should they reach out to?

**R** Robin Pruisner 12:05

You're always welcome to call us here at the Iowa Department of Agriculture. We love to talk insects all day long. Additionally, we do have a website called [iowatreepests.com](http://iowatreepests.com), and we have different pest pages there from everything from the Emerald Ash Borer, Spongy Moth, Spotted Lantern Fly, Asian Longhorn Beetle. And of course, I can't help but put a plug in for the folks at the plant insect diagnostic clinic with Iowa State University Extension.

**O** Olivia Hanlon 12:35

For sure. All right, Robin, thank you again for joining us. Is there anything that we didn't cover today that you'd like to add about the Spotted Lantern Fly for folks out there?

R

Robin Pruisner 12:45

Probably my last advice is, we seem to have an onslaught of the hitchhiking insects for the last few years. We have Spongy Moth that's really moving from Wisconsin and Illinois into northeast Iowa. In that case, it can fly very well with its own wings. But it is another hitchhiking insect where people move its egg masses. Emerald Ash Borer larva can also be transported in firewood and then the Spotted Lantern Fly and Spongy Moth on firewood. And so for those people that love to enjoy the great outdoors, we say take a hard look at what you're dragging back and forth out of your area. And in terms of firewood, what we recommend is buy it local and burn it local, don't travel with it long distances.

O

Olivia Hanlon 13:35

Okay. Thank you very much, Robin, for joining us today and we look forward to hopefully having you back in the future.

R

Robin Pruisner 13:41

Sure thing.

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Iowa State University Extension and Outreach 13:43

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