Speaker 1:

Welcome to Urban Plan Health Network's podcast series, The Good, The Bad, and The Bug-ly.

Drew Radford:

Hitchhiking. When we use the term, we're usually referring to people thumbing a ride. However, it's also used to describe how some pest insects get into Australia. One that did hitch into Victoria in recent years, and was fortunately quickly eradicated, was the brown marmorated stink bug. Not only can these pests have a significant Impact on the horticultural industry, they're also a nuisance as they take shelter indoors over the winter months in large numbers. To find out more about them and why we want to keep it out of the country, I'm joined in the studio by Antonette Walford, entomologist with Agriculture Victoria. Antonette, thanks for your time.

Antonette Walford:

No worries. Thank you. It's good to be here.

Drew Radford:

Antonette, first of all, what does the brown marmorated stink bug look like?

Antonette Walford:

It's a small shield type bug. So, people might be familiar with these bugs notoriously called stinkbugs. They're sort of a brown colour with a bit of mottling and also have some different bands of white and brown and some marks on the antennae too.

Drew Radford:

I like the shield description because I can relate to that. In fact, to me looking at it, it almost looks like a guitar plectrum with legs and antennae on it. Maybe a fraction smaller though I think.

Antonette Walford:

Yeah. Yeah. So about 12 to 17 mm, there's a bit of variation between them, but yeah, that's pretty good description.

Drew Radford:

Antonette, does it fly?

Antonette Walford:

They do fly, yes. So, they have, the adults fly. Whereas if you find immature, what they call nymphs, they don't have wings yet and they're unable to fly.

Drew Radford:

Its name says that it stinks. What's it smell like?

Antonette Walford:

Offensive. So, if anyone is familiar, maybe from their childhood, I know I am, finding stinkbugs in your backyard and having them crawl on you or touch them. And then you have this really pungent, awful smell leftover that is very noticeable. I think a lot of people would be familiar with that. If you're not, you're welcome to go into your backyard and give it a go.

Drew Radford:

I have heard it related to a really pungent coriander, but I like coriander, but there's people who hate it. But you allude there to your childhood. We do have stinkbugs in Australia.

Antonette Walford:

We do. We have lots of them in fact, and a lot of them that do look similar to the brown marmorated stink bug. So, it's not uncommon for people to contact us and check with us that they think that perhaps they may have the brown marmorated stink bug in their backyard.

Drew Radford:

So, how do you bypass making that call? It goes back to that banding again, does it?

Antonette Walford:

Yeah. Look, the answer is that you really need a trained eye. And in order to do that, we really need to look at photos, are often enough. Sometimes we might need a sample and it will depend on also the development of the bug. So, if it's an adult, it's pretty straightforward. Sometimes if it's not fully developed it might be more difficult. But generally someone looking in their backyard is more than likely not going to be able to tell because there are a lot that do look very similar that have very similar colours and sizes that are actually native gumtree shield bugs that people see quite often. So really, it's about contacting us and getting us to help them out with that.

Drew Radford:

Now, Australia has some of, I think, the highest smartphone ownership in the world. So basically, grab your phone and try and get a snap would be the answer to that, really.

Antonette Walford:

Exactly. Everybody has a very high-quality camera in their hands most of the time. So, getting good photos and usually more than one of different angles, underneath, on top, on the side. And then basically being able to get those to us, to be able to assess. And most importantly, which sometimes can be forgotten is to secure the insect. So, the bug that you're concerned about, make sure that you capture it if you can. That way, if we need more photos, we can ask for them because we do get some not so great photos at times, it can be hard to photograph a moving insect.

Drew Radford:

The top tip there is basically maybe get a container and try and trap it in the container and photograph it.

Antonette Walford:

Exactly.

Drew Radford:

We're talking about identifying, but the real issue here is it's a potential significant threat to agriculture. Why is it a threat? What's the damage?

Antonette Walford:

Basically, these bugs have got a massive host range and do damage to a huge array of agricultural crops and backyard plants as well. So, they cause injury and damage to fruits and vegetables of plants. They have these sucking mouthparts that they insert into the plant to suck out the juices. And then that causes disfiguration of the fruit, can cause the fruit to prematurely drop, cause sunken spots, basically in a commercial sense it would make the fruit or vegetable unmarketable. And for those people in their backyards, they may have reduced crops.

Drew Radford:

I've read that it can also make the host plant more vulnerable to further infection. Is that correct?

Antonette Walford:

Yeah. That's generally the case for plants across the board when it comes to high levels of, I guess, plant pest pressure. It can cause its immune system to be weakened, that then makes it more vulnerable to other things. And it can also happen the other way around where you might have a plant that's already vulnerable because it's diseased and then it attracts more pests because it's already vulnerable.

Drew Radford:

Antonette, we currently don't have these in Australia. How could they enter into Victoria?

Antonette Walford:

So, brown marmorated stink bug is a high priority pest that we know is a high risk to potentially enter the country, including through Victoria. So, there's actually a high-risk season every year that the federal department has extra measures in place for imported goods to try and ensure that BMSB doesn't get into Australia or Victoria. And that includes having mandatory treatments on goods coming from high risk countries. As part of that, they also have increased trapping and surveillance around the ports where this could potentially come in, to hopefully if it does ever get in, make sure that we have early detection and the best chance to eradicate, if that would have happened.

Drew Radford:

Has that happened?

Antonette Walford:

We have had in the past where it has come in through ports and being found at premises that have had imported goods and we have not had it spread any further than that. So, we've had trapping and treatment done to ensure that it doesn't establish. So, it is currently still not found in Australia.

Drew Radford:

That's a great result, but obviously due to high levels of vigilance. So, does it come in what, sort of attached to other produce does it?

Antonette Walford:

Yeah. So, this is one of the challenges with brown marmorated stink bug, it's what's known as a hitchhiker. So essentially it isn't necessarily associated with a particular pathway. So, it doesn't necessarily come in on apples or a particular produce, it comes in on anything and everything that's coming from high risk countries because it has this behaviour known as overwintering. Essentially when it gets colder, these adults go and find places to hide away until the weather improves so they can then start to reproduce and go through their life cycle. So, they’re often found in machinery, containers, all sorts of things that they could possibly hide away when they are brought over from the countries that they are currently found.

Drew Radford:

Wow, that makes it a nightmare for a person in your line of work, you've basically got to look at everything. And my understanding is too that this originally came from Asia, but now it's in all sorts of regions, such as North America and beyond.

Antonette Walford:

We do have a lot of border pressure. So, it's native to China, Japan, Korea, and Taiwan, but it has since spread to pretty much most of Europe, it's found in the USA. So essentially our job is to try and ensure that we have measures in place for the goods that are coming from these areas at that high risk times to do the best that we can to ensure that it's not going to get here.

Drew Radford:

So, the potential is a massive impact on the agricultural production of Victoria and Australia?

Antonette Walford:

Absolutely. With over 300 hosts, that's a very large range of different agricultural crops that it can impact, which would have a huge impact on the value of those crops.

Drew Radford:

We've talked about the impact on fruit and produce and also the host plant, are there other issues that the brown marmorated stink bug can cause?

Antonette Walford:

So, they can actually just be a nuisance as well because of their behaviour of overwintering. They can be found in ridiculously high numbers on buildings and in people's homes over winter when they're trying to seek shelter over that period. And because of their smell and in such high numbers, they have been reported as being quite a nuisance pest.

Drew Radford:

Australia's fortunate that we don't have these. I understand there is a natural predator to them, or is that just not even on the radar? The idea is just keep them out.

Antonette Walford:

Absolutely keep them out. And I guess until things get here, we're never quite sure how things are going to play out. We're not quite sure how predator pests, even parasite relationships are going to play out in the real-world scenario. We can do modeling and we can try and predict, but until they get here, we're just not sure. So, we really want to just keep them out.

Drew Radford:

The key messages that I'm getting from here is if you see a bug that you suspect may be the brown marmorated stink bug, capture it and take a photograph. But what do you do with that afterwards in terms of the information, the photograph you've got, who do you report it to? Where does it go?

Antonette Walford:

So, there's a number of different ways that you can report it to us. We're the ones that want to have a look and then decide if it is, or it's just a local stink bug. So, you can do that by either reporting online at our website at Agriculture Victoria, and then to biosecurity and report an unusual plant pest or disease. You can call the exotic plant pest hotline on 1800 084 881 or these days with the technology that we have in our phones you can also download an app called MyPestGuide and essentially you download that app, sign up and then you can take a photo straight from the app, which will then upload the report, which will also come to us.

Drew Radford:

Couldn't be easier by the sounds of it Antonette. Antonette Walford, entomologist with Agriculture Victoria. Thank you very much for joining me in the Urban Plant Health Network's studio today.

Antonette Walford:

Thank you. My pleasure Drew.

Speaker 1:

Thank you for listening to The Good, The Bad and The Bug-ly. For more episodes in this series, find us and subscribe wherever you get your podcasts.

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