Speaker 1:

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

Drew Radford:

If you look carefully, you can find all sorts of bugs in your urban backyard. However, knowing the difference between the good and the bad bugs, and then reporting these exotic plant pests when you see them is essential. Not only does it keep our gardens healthy, but it also has important flow-on effects for the health of our horticultural industries and also the broader environment. While our governments have strict measures in place to safeguard our industries and environment from exotic plant pests, the truth is everyone living in the cities can and should get involved in urban biosecurity. To discuss what urban biosecurity is and why gardeners in the city should care about it, I'm joined in the Urban Plant Health Network studio by Madeleine Quirk, Biosecurity Officer at AUSVEG. Maddy, thanks for your time.

Madeleine Quirk:

Thank you so much for having me.

Drew Radford:

Maddy, what is urban biosecurity and why is it important?

Madeleine Quirk:

Urban biosecurity pretty much looks at measures that are implemented in urban areas or urban environments, such as cities, including Melbourne, Adelaide, Sydney, and so on, to safeguard these areas from exotic pests and diseases. So, pests and diseases that aren't currently in Australia that might be coming into the country. It's an evolving concept at the moment, but it's becoming increasingly important because we've seen some recent outbreaks of pests and diseases over the years popping up as a first detection point in urban environments. So, if we place efforts here to mitigate the risks associated with detections, then we're going to be seeing more reports and hopefully less detections and quicker eradications of pests and diseases in urban environments.

Drew Radford:

You obviously do this for a job and we'll talk about that a little bit further, but it's more than you that is just involved in this process of ensuring biosecurity.

Madeleine Quirk:

Oh, absolutely. So, biosecurity is a shared responsibility. It's shared between the government, industries, and the communities across Australia. So, we all really need to work together to make sure that we can implement these measures and work hard to stop pests and diseases coming in and establishing in Australia.

Drew Radford:

So, what about you, Maddy, how did you get involved in the Urban Plant Health Network?

Madeleine Quirk:

So, I've been working at AUSVEG in biosecurity for over three years, and during these three years I've been working in various spaces. In one of those spaces was an urban biosecurity pilot program that AUSVEG developed. So that project aimed to raise awareness of exotic plant pests with community stakeholders in Melbourne, and I guess from there, we were in touch with Agriculture Victoria who were thinking about starting the Urban Plant Health Network. So we were able to feed some of the key learnings from our urban biosecurity pilot program into the Urban Plant Health Network, and I guess from there AUSVEG has been actively involved in the network and it's quite exciting to see how it will continue on into the future.

Drew Radford:

Well, let's talk bugs then, Maddy, because really that's what's important here for people to look out for things. Can you give us a few examples of some of the pest’s people should be on the lookout for?

Madeleine Quirk:

Yeah, absolutely. So, there's a long list of pests that people could be on the lookout for. So, I'm just going to highlight a few, a couple of called the brown marmorated stink bug (*Halyomorpha halys*), tomato-potato psyllid (*Bactericera cockerelli*), giant African snail (*Achatina fulica*), red imported fire ant (*Solenopsis invicta*) and fall armyworm (*Spodoptera frugiperda*)*.* But this is definitely not the full list. So, all of those pests I've listed are on the Department of Agriculture, Water and the Environment's top 40 pest list, which kind of indicates how important they are and why they're a key threat that Australia faces really.

Drew Radford:

Well. Let's drill down into a couple of those there, you mentioned the brown marmorated stink bug, otherwise known as BMSB. Why is it a threat? What's it look like? What do people need to look for?

Madeleine Quirk:

So BMSB, which I'll continue to call it. It's a very small insect, but it can cause pretty considerable damage both to the agriculture industries and also to communities. It's a little over a centimetre in length and has a distinctive shield shape because it is a stink bug. The coloration is mottled brown to red, but it can vary slightly, especially depending on what life stage the bug is in, but this is in its adult form. It also has distinctive white and black banding on its antennae and on the outer side of its body. But the problem is it does look a little bit similar to a number of native Australian stink bugs so it's really hard to detect, which is why it's important to report it.

I guess you asked the question about why it's a threat. Well, there's a number of reasons. It feeds on that considerable number of fruit and vegetables. These can include tomatoes, beans, apples, citrus fruits, corn, and there's quite a few others on that list. But one of the major problems is that it's actually a hitchhiker pest. So, it can come into Australia on cargo, ships, on passenger planes and et cetera. So that's why it's a problem and it has actually popped up in a number of locations across Australia, which we've then been able to eradicate it.

But if it were to establish fully, it would be a problem because, like I said, it affects those vegetables, those fruits, but also for communities. It likes to hide in properties, residential properties, buildings, cars in large numbers, which can be quite a nuisance, and it also produces a pungent odour. It smells a little bit like off coriander.

Drew Radford:

Now you mentioned another pest earlier on called the fall armyworm. It's been in the news a little bit recently. What is this pest and why is it a threat to urban gardeners across Melbourne?

Madeleine Quirk:

So, the fall armyworm is a significant threat to Australia. Unfortunately, earlier this year, it was first detected in the Torres Strait Islands, and in the past couple of months, it's been detected in Queensland, Northern Territory and Western Australia. So, they're the only three states and territories that it's currently found in. But it's a major problem because it just consumes so many different crops, quite like the BMSB does as well. It's got a really large host range. The other interesting thing about it is it can fly hundreds of kilometres at a time. That's why it's been popping up in so many different locations or the reason that we think it's been popping up in so many different locations so quickly.

It's a moth in its adult stage, but it also has a caterpillar stage as well. It's quite hard to detect from other armyworms and we do have a number of armyworms currently in Australia that are native to Australia. But it's not found in Victoria. So urban gardeners across all of the southern states and territories should be on the lookout for it. Given its ability to fly, it could potentially pop up in these locations as well.

Drew Radford:

Maddy, earlier on, you also mentioned the red imported fire ant. They've been in the media a little bit and from my understanding, they're only been seen on Australian shores around Brisbane. Is that correct? What are they and why are they so dangerous?

Madeleine Quirk:

Yeah, so that is correct. They were found in Brisbane a number of years ago. There's an eradication program in place in Brisbane at the moment to get rid of them because the government worked out that it was going to be more cost-effective to our industries to eradicate rather than to try and control. So red imported fire ant is a very small ant. I would say it's around two to five, six millimetres, and it's reddish brown, of course, in the name. They're very, very difficult to detect because of their size, but they create these nests that look like loose mounds of dirt. So that's probably how a lot of people are able to spot them.

So, the red imported fire ant are both problems for rural environments and urban environments. In the urban environments, they're very attracted to lawns, foot paths and water sources, so taps, rivers, streams and everything in between. I guess the problem with that is that it can be pretty frustrating for the communities. So, some of the major impacts of red imported fire ant, and I think this is a really important one, is that they can actually inflict really painful, fiery stings and they can cause itchy sores to develop. So obviously it's not something we want within the community. They also congregate in large numbers. So mass stinging is not uncommon and it has happened to a number of people before.

On top of those impacts, I guess another impact that I want to note is that it can have an ecological impact because they do actually feed on small insects, small fauna, even seeds as well. So, we don't really know how they might behave in places around Australia that they're not currently detected in. So, they could have a major impact on the native animals there. I guess the final impact with red imported fire ants is that they could cause economic impacts. So, if you've got fire ants and nests around in your sporting fields and golf courses, or even in open spaces like parks and playgrounds, it's not going to be great. It won't be a good place for a picnic and just not something that we want. So, I'm urging people to keep an eye out for them, and through the program, we've been providing some resources on red imported fire ant, along with all of those other pests that we talked about.

Drew Radford:

Yeah. It makes me itchy just talking about them, Maddy, to be perfectly honest. So Maddy, what can home gardeners do to play their part in biosecurity for the nation?

Madeleine Quirk:

Well, there are so many things that home gardeners and community gardeners can do to play their part. One of the main things I would suggest would be to report anything that's quite unusual looking. It might be something you've never seen before or a pest that could potentially be exotic.

Drew Radford:

Maddy, importantly, where can people go to find out more about these bugs and actually see them? Because we're talking about them, but I imagine actually seeing what they look like is really important.

Madeleine Quirk:

Yeah, absolutely. Well, the key place you can visit first is the Urban Plant Health Network website. Som this is www.extensionaus.com.au/urbanplanthealthnetwork. The Urban Plant Health Network also has a Facebook page and a Twitter account. But in addition, you can also visit AUSVEG's Twitter handle, which is @biosecurityveg. We have a number of resources on our website too. Som it's ausveg.com.au. I would also recommend having a look on the Department of Agriculture, Water and the Environment's website for that top 40 pest lists that I mentioned earlier on. It's really interesting and you can learn what a number of these pests look like and how to report them.

On that note of reporting, it's really important to report anything unusual to the exotic plant pest hotline on 1800 084 881. But there's also an app that you can download to make a report. Som this app is called MyPestGuide Reporter and it's accessible on both Android and iOS.

Drew Radford:

Well, Maddy, keep up the good fight in keeping these exotic pests under control. It's so important for biosecurity across the nation. Madeleine Quirk, Biosecurity Officer at AUSVEG. Thank you for joining me in the Urban Plant Health Network studio.

Madeleine Quirk:

Thanks, Drew. Thanks for having me.

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. We would love to hear your feedback, so please leave a comment or rating and share this series with your family and friends.

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