Nick Housego:

Welcome to the Australian Biosecurity Series 2021. And I would like to begin today's meeting by acknowledging the traditional custodians on the land on which we're meeting. And that being the Canberra region where we're holding this meeting. The Ngunnawal people. I pay my respects to their elders past, present and emerging. And I extend that welcome and respect to all Aboriginal and Torres Strait Islander people attending today's meeting. You're most welcome. Okay. My name is Nick Housego. I'll be facilitating the session. Just by way of getting introductions, we couldn't get enough of you to speak we'd be on there for the full hour. So what I'm going to do is just quickly give you an overview of some of the organisations that have signed on for today. We've got the CSRO, we've got Apple and Pear Australia. We have AUS-MEAT, Electrolux, Masterpet, Charles Sturt University, University of Melbourne, the Bondi Labs, Australian Table Grape Association, Australian Plant Biosecurity Science Foundation, Tas Farmers and Graziers Association and the list goes on.

Nick Housego:

This including West Australian Farmers, New South Wales Farmers, Queensland farmers and Australia Banana Council Grain Growers. I could go on, but I'll reserve. Okay. So we'll be discussing today the brown marmorated stink bug. Because we're looking at the managing the risks of serious hitchhiker pests. So very important that we have a solid robust conversation on this. We have four key presenters, who'll be able to take us through good detail in that material. Australia and New Zealand are the two countries that really take biosecurity seriously. The work undertaken to keep BMSB off our shores is the evidence of this. Today you'll hear from local and international speakers on why BMSB is such a significant risk. How these risks are managed and how we collaborate with New Zealand. So the first one of the presenters is Brian Garms. Dr. Brian Garms, what is BMSB and what does it pose such as significant risk for Australia? The second presenter will be Ben Rowntree. And Bens the Director of Biosecurity and Operations Division at the Department of Agriculture and Water Resources.

Nick Housego:

How Australia manages the seasonal risks posed by BMSB and the response efforts that are undertaken when it is detected within our borders. The third presenter will be Nathan Reid, Director of Compliance and Enforcement Division at Department of Agriculture, Water and the Environment. The importance of managing BMSB risks offshore, and the offshore treatment providers scheme. The fourth and final speaker will be New Zealand's perspective on BMSB and how the cooperation with Australia is helping managing the growing risks. That will be Paul Hallett, New Zealand Ministry for Primary Industries. And I should mention that Dr. Brian Garms is the Director of Biosecurity Plant Division of the Department of Agriculture and Water and the Environment. Okay. So by way of getting started. So Brian, I'll give you the floor. Away you go.

Dr Brian Garms:

So today, I wanted to talk to you all about what is BMSB and why does it pose such a significant risk for Australia? So, brown marmorated stink bug, halyomorpha halys is an insect that is native to East Asia, China, Japan and Korea. It's a herbivorous insect that feeds on plants. And as you'll see in that top photo up there. It has a needle like mouth, which it uses to pierce plant tissues and feeding the plant tissues and draw to sap if you will, to get it's nutrition. All live stages of the insect from the nymphs through to the adults feed this way. It has a wide host range, it feeds on... It's known to now feed on over 300 host plants. But it is a little bit of a specialist and it tends to specialised feeding on fruiting structures and seeds. And of course, this is where it's economic damage occurs in that it's feeding on the same structures of the plants that we're trying to grow for ourselves to eat. And it does a lot of damage to plants this way that we're trying to grow.

Dr Brian Garms:

Now, it's been in Asia for a long time, and it's been a pest in Asia for a long time. But just in the last few decades, it started to spread around the world. And this started in the United States. It probably arrived in the United States in the late 90s. It was first noticed in the early 2000s in Pennsylvania. And it was recorded there and for about a decade I suppose it just was around, it's slowly spread through the countryside. But it was really in 2010 when this insect really took off. For whatever reason the population reached a sort of a tipping point and they had an especially good year for this insect. And it just erupted as a major pest of apples and stone fruit in 2010 on the eastern seaboard of the US. And in that year alone it was estimated to do $37 million worth of damage to apples, and it will cost about 90% of the stone fruit crop, the peach crop in the US.

Dr Brian Garms:

And from that point, it got a lot of attention as a pest. People started looking for it elsewhere in the world, and they started thinking about where else it could go. And people started to think about the places in the rest of the world where could it could spread and establish. In 2012, there was this paper published a climate model, looking at what other parts of the world it could be a threat. And as you'll see it basically, in this model the dark colours are showing where the climate will be most suitable for this pest is the temperate regions of the world. North America, Europe, temperate parts of South America, and of course temperate parts of southern Australia and New Zealand were considered to be most at risk. And in this map in 2012, it had just been detected in Europe, in Switzerland. In 2012 this was it's known distribution, but this is the area that was considered to be under threat in the dark colours.

Dr Brian Garms:

If we forward now to 2020. It's basically spread around the world. It has spread right across Europe, it has spread right across North America, it has gotten into South America, and in fact Australia, New Zealand are some of the few countries left in the world, where it could establish where it hasn't yet. And while it's been spreading around the world, it has become a very serious pest. So I mentioned the damage in the US in 2010. In the Republic of Georgia, on the Black Sea, in 2016 this insect did $16 million worth of damage to their hazelnut crop alone that year. There's just been a recent publication in Europe in 2019, I think it did 500 million euros worth of damage to crops across Europe, just in 2019. So this is becoming a very serious pest in the areas where it's invading. And what I did want to sort of say today quickly is that it is a landscape path. So it's not simply, it does affect a wide range of crops such as apples, stone fruit, corn.

Dr Brian Garms:

But it isn't getting into one crop and just staying there. It really does best in a landscape where there's a diversity of food sources and throughout the course of the summer, it moves around from host plant to host plant as things are fruiting and feeds in these plants. So this is the kind of a landscape that really drives large populations of BMSB. And this is where countryside like this is where you see it becoming a serious problem. This is something we've had to deal with now at the border in Australia, for a number of years. So as I mentioned, the first outbreak in the US was in 2010, really when it got bad. And if you'll see the history we've had with this insect, we haven't seen a lot of it until that time. After that time it started to appear with increasing frequency as it's spread around the world and the population grew. I won't talk too much about the measures we've imposed. My colleagues will probably go into more detail there.

Dr Brian Garms:

But I just wanted to point out on this slide we've had to put measures in place on goods from the US in 2014, which helped to push down the number of live arrivals. And later on in 2017, we started to put measures in place for goods coming from Europe. And this has all been necessary to keep that risk, down to an acceptable level. And we do think that most of these pests that were dead, were arriving dead because of the treatments we've imposed. And if we didn't have measures in place, those would all be live. The other thing I did want to say about this slide is that this is a count of incidents. So you might have for example, one piece of machinery that arrives as one consignment. We count that as one incident, but there could be hundreds of bugs. And in fact, we find cases where there are hundreds and hundreds of bugs inside that one piece of machinery. So the total number of individuals we have actually number in the 1000s every year in the last few years.

Dr Brian Garms:

Now, why is BMSB spreading around the world and why is it arriving on our shore? A lot of people want to hear about it being a pest of plants, they think that that must be the pathway. It's moving on the trade of fruit and vegetables and plants. Actually, that's not the case, there's something very special about BMSB's lifecycle. It's adapted to survive in cold climates. So over the winter, it's a plant that needs to feed on sap. There's no really green plants in the parts of Asia where it's native. And then these cold climates where it's invading. So it's adapted itself over the winter as an adult. And so through the course of its lifecycle, in the summer it's out feeding on plants and the nymphs are maturing to adults. But when we get to autumn, the days get short and the weather gets cold it triggers a behavioural change in this insect. And it moves from the outdoors and plants and it starts looking for a nice and close tight space where it will feel safe and sheltered.

Dr Brian Garms:

It'll crawl in there and it has this extra behaviour where when at this time of year when it's happy, it feels safe and happy it releases a pheromone that basically says, "I'm here. I'm safe, I'm happy." Which is attractive to other bugs. And they'll come as well and if they feel the same way, they'll add their pheromone to the mix. And it can kind of become a real rapid feedback loop, so you get these large aggregations forming inside a very small tight spaces. And we've had cases in the US especially, where people have had literally tens of thousands of bugs, moving into their homes in the autumn. Now, this insect in nature would do this under things like bark, or in the hollows of logs and so on. It sits there all winter while it's cold, it really doesn't move. Until the weather warms up again in the spring, and the days get longer again and then it goes through a bit of a hormonal change. It emerges from the overwintering sites and starts the reproductive cycle.

Dr Brian Garms:

The adults that overwintered probably die over the summer and it's the next generation then that continues the lifecycle of the insect. So this overwintering phase has two consequences for us. One thing is that's actually a major part of its pest status. In the autumn, it will start flooding into people's homes. It does stink it. The description of it is probably best described as rotten cilantro. So people through the autumn will have literally thousands of these bugs coming into their homes, they'll have that stench wafting through their house. It gets into all sorts of tight corners and spaces in their home. But it's also getting into things like goods that we want to export. So goods that are stored outside, like machinery that have these kind of overwintering nooks and crannies for it are quite attractive for it. And that's actually what we're finding at the border. It's not in plants, it's not in fruit, it's actually in machinery and other goods that are exposed to this pest.

Dr Brian Garms:

And one of the consequences of this is we get a very clear seasonal profile from this insect. We at the border here in Australia, see it arrive in a really regular pattern year after year. It starts to appear in really end of September, early October. The overwintering lifecycle begins in September, but it takes about a month for goods to get to Australia often. And it really picks up through November and December through the northern hemisphere winter. It's staying put, it's not moving. And so when those goods get loaded, it stays with the goods and it arrives here. As we get later in the year, towards the northern hemisphere summer, it drops right off because these insects have left their overwintering sites and they're now in the field feeding and continuing the lifecycle. So we have a very clear season that we manage BMSB on, based on this overwintering lifecycle. The other aspect of this is there's a very clear set of goods that are at risk of having BMSB. And it is these goods that are stored outdoors in those kind of habitats, the landscape that supports large populations.

Dr Brian Garms:

So for us, it's particularly machinery vehicles and parts. No matter what continent it's coming from that is one of the key sources of BMSB. There are some other things that do get implicated in this. There are things like outdoor plastic chairs, terracotta pots. These are things that are stored outdoors in stacks. And the gaps between say each item, each pot or each terracotta or each plastic chair, forms a nice little gap that these insects actually find a tracking for overwintering. So there are a number of different goods that are affected by this insect, but it is mainly inanimate goods. It's not actually a fresh plant pathway. And so all together, this is what we're calling a hitchhiker pest. And look again, I won't go into the detail because you'll hear about them from my colleagues. But we've had to manage this quite carefully in especially vehicles and machinery but these other goods as well. These are often high volume imports for us, we don't manufacture many vehicles in Australia anymore so they're mostly imported. They're very complex.

Dr Brian Garms:

So these insects are hiding inside of the vents, in the under panels and places very hard to find them. And it's also very difficult to secure these goods when they're on shore. These insects, once they warm up and the days are long, such as it is in Australia in October, November, December. They'll fly right out. They can fly for many kilometres. They've got that wide host range, they'll easily find host plants and establish themselves. So we've had to put a lot of offshore treatments in place to manage that risk of this hitchhiker pest. So look, that's the end of my talk. I just wanted to point out a few things. First of all, BMSB has always been a biosecurity pest. Some people think we've only started worrying about it beginning in 2014, when we start putting emergency measures in place. And that's not true. We've always treated it when we found it. We just haven't really seen it to the numbers we have, as we have in recent years.

Dr Brian Garms:

We are putting mitigation measures in place for goods from all countries of BMSB, which includes things like enhanced surveillance. As well as offshore treatment, which my colleagues will talk more about. And because this is overwintering lifecycle that's driving the risk for us. We've got measures that we applied at certain times a year and we also have that on certain types of goods. And I guess I'd like to point out as well that we're constantly reviewing what we know about BMSB, to make sure we're targeting the right goods at the right times. And that's my talk. Thank you very much.

Nick Housego:

Brian, fantastic. Thank you very, very much for that. Covered a lot of good ground and really set the scene for where to go to next. Over now to Ben Rowntree.

Ben Rowntree:

So, as Brian said BMSB has become an increasing risk for the department. And it is my duty in the seasonal pest team to put in measures to manage that risk. So two questions then is how does the Department manage the risk of BMSB? Noting how big and fast it has spread throughout the northern hemisphere. And then what do we do if the Department does detect BMSB? So sort of as a broad range, how do we manage BMSB? So certain goods manufactured in or shipped from target risk countries, and we call the countries which we believe BMSB or no BMSB population resistance are target risk countries. A sea cargo subject to BMSB intervention. The measures apply to these good ship between the 1st of September and the 30th of April inclusive. So as Brian was saying, it is a seasonal pest. And in Perry's graph, you would have seen the pickup, to the detections and we do mirror our policies to match that period. All other goods outside of our target risk goods or high risk goods...

Ben Rowntree:

All other goods outside of our target risk goods are not subject to BMSB intervention unless they are packed in a container with target high risk goods. As Brian was saying, BMSB is a hitchhiker pest which means it does exist with target risk groups, but where those goods are packed with other groups, those other goods therefore do become a risk. And then we look at vessels as well. So any vessels that berth at load or transships goods from target risk countries are also subject to heightened vessel surveillance. So our target risk countries. So at the moment, we have 36 countries. These are the target risk for sea cargo. This for the 20/2021 BMSB risk season. We added to that list four new countries. Which were Kazakhstan, Moldova, Portugal, and Ukraine. And then we have measures for vessels which includes the same countries but we also include Japan for heightened vessel surveillance, due to a pattern of detections which were found through that pathway.

Ben Rowntree:

We also have a subset of countries, which we do verification across as emerging risks. So as you can see there, there is a lot of Europe that is included as target risk. However, due to the open border nature of Europe we do include other countries within Europe as emerging risk and we do conduct verification inspections across those, to manage and monitor for any emerging concerns relating to a BMSB. So as Brian was saying, we have target high risk goods. And none of them are in the sort of fresh produce, plant or animal areas. They are all innate objects due to the nature of BMSB. We currently have 25 target high risk good tariff chapters, which we monitor for imports. And as you can see, they does vary quite widely from explosives, through machinery, down to arms and ammunition. From what Brian showed, you would notice that there are a lot of goods there in amongst that we do find BMSB. And a lot of these things tend to be stored outside.

Ben Rowntree:

And where things are stored inside, there are things where BMSB are likely to crawl into and find ways of overwintering and bringing their friends. And I'll show an example of that as we go through this presentation. We also have a list of risk goods as well, which is an additional 14 tariff chapters which we monitor. With goods that may be stored out, sort of things like soil bag fertiliser, and other sort of tariff chapters within the chemicals, and rock type goods. And we do monitor those through a verification regime to ensure that we, one, we're not missing any risk concerns. And two, we're not seeing any change of behaviour with BMSB. So, BMSB intervention, what do we do when we find BMSB? So for the 2020/21 season, we had 232 total detections of BMSB. So these are individual cases as lot number of bugs. Of where the department has found those. This includes both live and dead detections. Of which, 204 of those two detections were made at the border.

Ben Rowntree:

So through some intervention by the department and an approved arrangement. And then 28 detections of those who made post border after they've passed and gone into importers premises or people's homes. 28 does sound like a lot. But two years ago, we had 60 live detections made post border. And we see we only had 15. So now border measures are working. We are noting that BMSB is moving and it does turn up in some places, sometimes which we don't expect. We had a mailed item this year of a teapot and found two live bugs. And it's one of those difficult places to monitor. But we continue to see this behaviour and we add in different interventions to manage it. When we do find bugs, the department has a process where we do capture those and we do treatment, but I will lead on to that.

Ben Rowntree:

This year, as you can see because of the broad nature of the countries and the tariff chapters, we assessed 95,000 containers between September 1 and April 30, which is approximately 70% of all the containers arriving in that period into Australia. So BMSB does account for a huge amount of work that the department does in managing the risks. And we do have a broad net to ensure that we are capturing what we need. With regards to vessels, we had 198 seasonal pest inspections on vessels. Now, it just so happens that the BMSB season also does coincide with agent gypsy moth and burnt pine longicorn season. So those inspections aren't just for BMSB. However, and the lion's share of those inspections are conducted on what we call roll on, roll off vessels. So vessels that bring in machinery and vehicles.

Ben Rowntree:

So what is our response? I know this is probably a little bit blurry but hopefully you can see. This is an example of a detection, which we had this season. It's a lie detection. And it's a good example of how BMSB does congregate in warm spaces. So we had notification of live insects found on this piece of equipment. And when it arrived, there were a couple of live bugs within the packaging that could be seen. Indicating that there was a problem. Now this piece of equipment is about the same size as a computer hard drive box. So, we're not talking a large piece of equipment. What we did is the department then takes that piece of machinery and sends it for treatment. The treatment options for BMSB are heat treatment methyl bromide and sulfuryl fluoride fumigations. Upon treatment, the department in this case took hold of that item back to do some post treatment inspection. And upon opening this particular piece of equipment, we found 300 bugs. Now noting the size of this piece of equipment, to find 300 bugs in is quite amazing.

Ben Rowntree:

So it's a good example of the nature of BMSB and how it does congregate and is also a good example of how the department manages the risks. So when the department is informed of live detections either at border or post border, the department will send those items... Well first of all, assess those items to ensure that the risk is being managed. So we do either we tarp items, or plastic wrap items, or basically we want to be able to contain that item to ensure that no bugs escape the items that have insects and then we send it for treatment. In the case of post border, what we do is we'll capture those bugs. If there is a further concern, we will lay down traps as well. But for the most part, we are able to manage and treat these insects. And that is the way the department manages this insect as we do with all other evidences. With BMSB, it's really all about industry awareness. We work with offshore suppliers and we hope that industry works with offshore buyers to manage BMSB at the offshore stage.

Ben Rowntree:

It is the easiest and quickest way to manage the risk of not having onshore. But we also want industry to end, everyone the community as well. If they see something, say something. Please report it to us on our See. Secure. Report line on our website or through our phone number. And the department does follow up all live detections of bugs, to ensure that we are managing as far [inaudible 00:25:19] as security. Thank you.

Nick Housego:

Ben, thank you very much. That's further deepening the knowledge that we've got around this pest, BMSB. Nathan, I'm going to call on you now to present your section.

Nathan Reid:

And as always, great to hear from Ryan and Ben. You can see the passion, certainly in the work that they do. So Brian and Ben have covered off a number of elements that they are responsible for. And I'll talk a little bit about our offshore programmes and the actions that we take pre-board to try and manage this pest. And really one thing that strikes me, that you're hearing from three different areas or three different divisions with inside the department today and one of our international partners. So it really highlights the complexity and the moving parts for us when we're determining the risks, setting the controls that are established to manage such a significant biosecurity risks, such as BMSB or hitchhiker is more generally. So the advantages of offshore risk management. Ben touched on a few though. So for many of you who have been involved in the biosecurity system for some time, you'll know that the department's increased its focus over the last 10 or 15 years addressing biosecurity risks at their place of origin.

Nathan Reid:

If it can't be addressed specifically in its place of origin, we'll try and ensure that something happens on that logistics chain or supply chain, to ensure that the goods have been traded for instance, so that the import conditions for Australia are met. There are really a number of advantages in taking this approach. Some of the advantages are strictly biosecurity related so they're lucky. We'll like to have a government that would manage things. But a number of those advantages, also are commercial. So they're really designed to help industry. BMSB is flight risk. So if untreated goods arrive, there's always a significant risk that the BMSB could escape, between the point of arrival and the onshore trade market. Especially with things such as breakbulk. And you saw some pictures that Ben showed. So when we're talking breakbulk, that's really the reason that those goods must be traded offshore. So we've mandated that.

Nathan Reid:

In terms of some of the other advantages. I've touched on treating goods at their source, which is extremely important. It's much easier to manage the consignment suitability. We understand that space in shipping containers is money. So industry exporters and shippers, they want to fill containers to the brim. But if containers are filled to the brim and then they're exported to Australia, it's very difficult to conduct an effective treatment. To do that, goods maybe consolidated or staged in the way that make them effective. So with BMSB been a flying pest, it's very difficult to do that. So if goods are going to be treated at the place of origin, they have much more opportunities to stage the goods to make them effective for treatment. It's actually one of the advantages. One of the other things that really comes through is that, from our point of view, we can't look at everything. And I think Ben gave some statistics on some of the goods that we do look at. But we can't look at everything.

Nathan Reid:

So when we have trust that the risk has been managed overseas, it gives us the ability to reduce our intervention. And with that, in the last little illustration there. Saving resources, time and money. If we have trust, and we have confidence in supply chains, it ensures or provides much more surety that the goods will move more freely through the border, which from an industry perspective is extremely important. Now if we're talking about somebody purchasing a new vehicle. They've gone to the showroom, the car dealer has told them it's going to be six weeks before they get their car, because it's going to be shipped from overseas. If there's an issue with consignment of vehicles coming from overseas, and they require retreatment. Or, in fact, they're being reexported. What do you have there is a very frustrated car dealer, and a purchaser that's even more frustrated because they've been waiting some time, for their new vehicle.

Nathan Reid:

So, I've spoken about the advantage of offshore risk management. But what did we do about it? What did we do to establish a system to manage that risk offshore? We established the offshore BMSB treatment providers scheme. Firstly, we identified the risk. And as Ben mentioned, there's 36 countries in our target risk. When we first took this job on, there were two countries. So we established a small team, that was looking at setting up a system in Italy and in United States at the time. I think it was within about five weeks. That number of countries had risen to a 11. So it was really challenging for us. But what we've been able to do is evolve the system, and really improving each and every year since it was first implemented. You'll see there's an illustration there with all limited overseas government assistance. And when we're establishing these offshore systems, our preferred method is to engage with governments and get some assistance from them in terms of on the ground regulation with countries.

Nathan Reid:

But BMSB's is an unregulated pests. So in many cases, our overseas trading partners were unable to assist. But the scheme itself includes treatment provider regulation. That really is an important component of this. We need to ensure that we're dealing with companies that can be trusted. And you'll see there, with this programme is jointly managed with New Zealand and Paul Hallett will talk a little bit more about that shortly. But the advantages of us establishing the scheme was firstly, that we knew the treatment providers we were dealing with. Secondly, we ensure through our registration process, that the treatment providers have the capability and capacity to conduct the treatments. And even things like access to the chemicals they said that we're using. Several item and the pieces of certification that were coming across their border. So we established the verification process for certificates. Whereby certificates are only sent from one trusted source.

Nathan Reid:

So when a company is registered, we then know who they are and we will only accept certificates from those companies. That also gives us the ability to target our compliance intervention activities. And I'll talk a little bit more about the processes we've established and verified that the system is working. So the scheme itself is made up of a number of elements. And central to those there you'll see is engaging communication. We've done a lot of work in engaging with the different industry sectors that are involved, whether they be trading providers, shippers, brokers, importers. It's really important that we engage with those industry sectors. Because the first step of complying is really understanding what the requirements are and must be provided. So we've developed the treatment methodologies. And Ben mentioned that there are three acceptable treatments for BMSB. So we now have treatment methodologies, the sulfuryl fluoride, the methyl bromide, and also the heat treatment. And then it's a step by step, verifiable process the treatment providers can follow.

Nathan Reid:

From a regulators perspective, it gives us the ability to verify. We have lists of offshore treatment providers that are on our website. And importers and exporters, can then go to those lists and see which companies that the department has entrusted to conduct these offshore treatments. We also have a treatment certificate reporting. And as you'll see there we have 235 treatment providers in 24 countries that were registered in the 20/21 BMSB risk season. So lastly, I'll just quickly touch on our compliance verification system. And for us, it is fundamental to the operation of a system. This how we check that the system is working. The department is a regulator, that is our remit. So I thought I'd touch on our approach, which includes a number of these elements. We have documentary assessment. We conduct remote and on-site audits. And obviously with the COVID situation, those on-site audits have been reduced. But since 2018, we've conducted 283 desktop assessments, and certainly 8 on-site audits. And a number of those have been done with New Zealand.

Nathan Reid:

We are able to investigate and deal directly with treatment providers in the event that live pests have been detected. And we're also able to target on-arrival inspections of BMSB treated consignments. So lastly on the right here, is a process that we do follow and it is a very systematic process if we find live pests. Any action that we take to prevent treatment providers is not taken lightly. But it is a systematic process that we follow. So we gather and assess information, if medical treatment provider is at fault, they can be suspended. But if the treatment provider is not at fault or unable to determine that, we also have processes in place. We can engage with them, remind them of their responsibilities and actually work with them to ensure the compliance is met. So what does that done? Really, at the end of this with... and the statistics that Brian and Ben have shown you. At this point in time, we've been able to take BMSB out of the country.

Nathan Reid:

So the systems that we've established, they'll continue to evolve. But we are very fortunate, the government's investing significant funding to manage hitchhikers and offshore trading term insurance is going to be very large component of that. Thanks Nick.

Nick Housego:

Nathan, thank you very much. Paul, it's over to you in New Zealand. To give us your perspectives on the BMSB and how both countries are working better together.

Paul Hallett:

Yes. Thanks Nick. Good morning everybody. I was just listening to Ben, Nathan and Brian talking. And I think if we switch to Australia and New Zealand, the same data and approach is really, really similar in terms of our journey with BMSB. Which meant that we're able to better align our systems. But it's certainly been a good journey in terms of managing this pest. What I will do is give you a little bit of a background, not to duplicate too much what's already been said. But from a New Zealand perspective, why do we worry? As Brian said, over 300 species of plants and the US have literally lost 80% of production, valuable commercial crops. And New Zealand we estimate that a bit of an established year which was anywhere from 400 million to 1.2 billion, increase use of pesticides. And I think that the often saying that undersold with us is this, it's a public nuisance that will affect people in terms of their day to day life. And so that's a big thing from me obviously.

Paul Hallett:

It's a hitchhiker. Adult shelter is none. Small, tight, dried places. Which means that it's hard to see in some places and sometimes. We've found an aggregation that 20 bugs in a set of shoes that were sent over from US one year. That just shows it turns up in all the weird places. Visual inspection is not effective always. It can move around in over winters, and wintering environment. And just like with Australia, once they reached New Zealand they'll be ready to feed and mate. There's some good pictures for you. I think the one of the top right is one of the most used pictures in terms of the sheer volume of BMSB that can get attracted to, to overwinter and within the houses. Again, when we match our climates, the dark shapes there is climatically similar to New Zealand, through Europe. So there's that whole band that's moving through. And so which means that establishment, once it gets here that will establish, so we're not just trying to keep it away. We're trying to stop it to establishing and then causing problems.

Paul Hallett:

But it's interesting because our arrival trends are pretty much similar to what Brian showed. This data here is from about 2018. But there's a slow rise from October, November when will start seeing more come through. And then that December, January, February, we see peak periods we were finding more bugs. Both live and dead. And there's a little bit of accounting for the shipping times. But it's those periods where we invest more energy into managing the on-arrival goods. But then we get a tapering off through from, through to March and April, and then you just get random bugs [inaudible 00:38:16]. This is a big thing. Back in 2016/17, between DAWE and NPR, we realised that we were regulating the same industries, the same target list. And the fact that industry players, especially in the vehicle and machinery fields, were having to do two sets of requirements for the same goods coming from the same place, on the same ship. And there was a lot of confusion in terms of what rate to use for what country for certain treatments.

Paul Hallett:

Where New Zealand, I think we had different rates from methyl bromide and heat was different. So there was a lot of confusion in terms of when vehicles get changed from discharging and in Australia and they are sent over in New Zealand, and there was a confusion going through. So after a series of meetings and discussions, we made the decision that we should align our requirements where we can. So there's one set of roles. Now most of our roles align, there are some differences. There are some things that we do in New Zealand that's over what standard in Australia and vice versa. And this often reflects that in areas within New Zealand we don't think the bug would establish certain times, in Australia it would. So we target what our mission is. That means that we can actually manage the biosecurity system across both countries. And there's a performance here that we're after in terms of targeting pests, and we can target goods, we can collectively manager it, and we're getting a bigger return for that investment and having one set of roles. That's really massive.

Paul Hallett:

It has been a huge benefit for New Zealand to work with Australia, where we have shared the resources. It also means that there's a higher cargo volume. So you've got economies of scale. So if we only get 10 vehicles from one manufacturer into New Zealand, Australia might get 100. So there's a bit of need in terms of a better driver to do the one move or the one requirements that covers all of those vehicles. Combined restrictions in sections for both countries. They help measure the system outcomes. And this is really important for New Zealand perspective. We've got to know how measures are important. We've got to know that they're target and we've got to know that they're effective. And by combining both countries, what we're able to do is get a bigger view across the whole system. So we're not just relying on a smaller data set from New Zealand. We're incorporating Australian data set into that. So we're able to say, "yes, we are very effective here. Or we need to try and tune this or that." With tiles that Brian mentioned where they were attracted to the tiles to lay in between them.

Paul Hallett:

We've got some questions whether or not that's effective because they become a heat sink. And so you've got to put more heat into it. And we share that between both countries. The thing that we're doing is there's ongoing discussions, ongoing effort to make sure that we're still targeting the right things. And we're managing the appropriate good, so we're managing the appropriate mechanisms and the people over in all these countries where they sending it through to us, know what they're supposed to do. And this again has been a massive bonus from the system. Just some data from our side, for the 20/21 year. There's 130,000 vehicles that have treated, coming to New Zealand both new and used. 97 treatment providers from 16 countries. And when we go back to the data, there's that 235 that have been approved across the system. So we're only using subsets of New Zealand importers, but that cooperation and the joint system means that there's a bigger pool of treatment that could be used.

Paul Hallett:

We're seeing the numbers go down in terms of the BMSB, that we're picking up on arrival. Live is down by about 16%. And the events that would be immensely detective, it's up slightly with 5% but that's because we're finding more dead, and that's affecting the figures is going to be a... And this mirrors the trend over the last three seasons. So it's working in terms of managing the system and setting the right regulations. But the case of New Zealand's perspective is that we stay connected to Australia, and so we get that common goal in terms of managing BMSB. And thank you.

Nick Housego:

Okay, fantastic. Thank you. Paul, that was a great effort and good to share the combination of skill sets that we're using across, both Australia and New Zealand. Brian, there's a lot of questions that have come through. The first one that Thomas Gross sent through during your speech was, "Many machines are not stored outdoors prior to shipping and are still subjected to BMSB treatment. Why?"

Dr Brian Garms:

Yeah. And I might ask also Ben to chip in here. But basically, I think that the issue we have is it's very difficult for us to know what things were stored where, and as Ben was showing that excellent example with the piece of electronic equipment. It turns up in very random places. And so we've had to target a kind of a wider, throw a wider net if you will. To make sure we're covering what we need to because we simply can't get information about exactly where a particular good was stored. And we certainly looked into this early on, but I think even many importers don't necessarily know the conditions the goods they've ordered from overseas were stored in or are unable to provide that information. So I think that's the simple answer there.

Nick Housego:

Ben, did you want to answer or add anything to that?

Ben Rowntree:

Yeah. I mean, Brian's covered most of it. The other part of it is as well is the import system, and the way goods are lodged across the border it doesn't provide the nuances for those types of questions to be asked. So we do have this broad net on the way of capturing goods across the border. And the way we profiling means that we target countries and tariff chapters. There's no real way to say where those goods were stored through that process. So it's just one of those difficult things as Brian was saying that we just can't get to those details, and to go down the path of trying to get the individual detailed and individual consignments would be very costly, I think, for industry and importers, just to get border clearance times/ Because anything where we have to ask a lot more questions at the border, increases the workload and increases the opportunity for things to be held up. And time and money becomes an issue.

Nick Housego:

Okay, thank you. Darren Credikos has got a question. "Why does Japan have a special category for target surveillance aimed only at sea vessels? It has BMSB and is climatically suitable."

Ben Rowntree:

So traditionally, we use a lot of data on the way we capture information in the regards to Japan and BMSB fingers depends a native country for BMSB. However, with goods that we do target from Japan, the traditionally we have not found the bugs inside the commodities from Japan, but we have found them on the vessel. So it is one of the hitchhiker pest. And there's a range of hitchhiker pest, but is one of the hitchhiker pest which we can show, through the scientific and analysis and data that we have, that where we find the bugs that we can go, "Here is a pathway which we need to manage. And this is the way we manage it." So in this case, we have the historical data showing bugs on vessels, but not bugs in goods which is what we tend to find in other countries. And therefore we manage that appropriately. Brian, did you want to add anything on to that?

Dr Brian Garms:

Yeah, sure. I think I will add a little bit more. And it's just there's not enough time to talk about all the different dimensions of this. But there are a lot of questions that do come up about native range countries. So I'll take a minute to just explain this a little bit more. One of the issues we've had is that when BMSB goes overseas into these new environments like North America, Europe, it just explodes. And that chart I showed, if you think about it in 2014 we were putting measures in place against the US, because of the the numbers of bugs we were finding. We still hadn't had anything really much from Europe. And then three years later, we were getting more than twice the number of interceptions because of Europe became an issue. So that is still unfolding that we still don't fully know. I mean, we've got those climate master trying to predict but we just don't know what's going to turn up from year to year in those invaded range countries.

Dr Brian Garms:

This is really different to the native range countries where these insects have been present for probably, well, forever really. Hundreds of thousands of years. There, they're there. They're there with their native predators and diseases. People have managed them in their crops there for centuries. And so unlike the invaded range, we don't expect native range countries to suddenly explode with BMSB out of nowhere. And so it's a very different kind of unknown, I suppose. And so we do monitor the native range countries, and we have found issues in the past with certain pathways from certain countries, and we've put specific things in place for those countries. And that's part of what that Japan shipping is about. But that's how we're managing the native range countries. So it's not that there's no risk. We do monitor them. But it's a different kind of risk and that we don't expect to get blindsided like we did from Europe, or we did from the US. So I guess, hopefully that helps answer that and maybe a few other questions that might people might be having in that space. Thanks.

Nick Housego:

Thank you, Brian. Todd Greenwood's put a question into Brian and Ben. "Do you encourage importers and or incentivize them to bring in goods only during the low risk seasons in Australia? I believe this is during the Australian winter months. Is that incentivization in place?"

Ben Rowntree:

We don't really incentivize, I guess there are two parts to this. One, the off-season for BMSB is only a three month period. Which is, rightly it is our winter months. So it really only gives us a short period of time for people to import goods if they are trying to avoid our seasonal measures. Realistically, the incentive to bring in goods through that period would be that there is less intervention by the department. But again, the department can't dictate trade or when trade occurs. There are certain things that even the government does which increases or improves trade, which will occur through the whole 12 months, and the department just has to be wary of what risk occurs there. Things like some of the rebate schemes for farm equipment etc, saw an explosion of an increase in farm equipment coming through 2020 and into 2021. There's nothing that the farmer can do with that, but we just sort of ensure that we are manage the risk as these foods approach our boarder.

Nick Housego:

Okay. I've got a question here from Jamie Crichton. "Can you please clarify the shipping date? I know this is a question that is posed to you a lot. But a further clarification, for those who are unsure would be appreciated. Is the shipping date, the date the packed and sealed containers leave the point of origin? Eg, if that leaves 30th of April from France, BMSB measures still apply even though that container arrives in Australia or New Zealand in June? Thank you."

Ben Rowntree:

The way the department calculates the shipping date is when those goods are shipped on board a vessel. So the vessel as part of the paperwork for goods being shipped. Bill of lading is provided as part of the paperwork and to show that those goods are being exported from countries. And on those bills of lading, the shipper does provide a shipped onboard date and that date, or the department has the hard and fast date for goods being exported from those countries. So whether it's the 30th of August, so it's outside the season or 31st of August or the 30th of April so it's inside the season, whatever that shipped on board date is what we use. And it's for anything which we have treated offshore has measures which have an export requirement, that we use as a date to service when those goods were exported.

Nick Housego:

Okay. Peter Caruso has got a question which, oh he's got two actually and I'll read them both. "What are the estimated cost to Australia/New Zealand on biosecurity?" Second, "Any estimate of the cost to shippers, senders for surveillance and treatments? At what rate? Is this expected to go up?" Ben I'd say that lands in your lap.

Ben Rowntree:

Well, as I showed you we intervene on roughly 17% of consignment or containers between September and April. So there is a cost to our biosecurity system in respect to the amount of effort that goes in. It's not a quantifiable costs at the moment. It's become over this these last 12 months, a part of our business as usual, approach. However, you would have noticed in the most recent budget that the government has given the department significant additional money to managing biosecurity risks. And that's not just for the BMSB, but where we are seeing increased trade into Australia. And therefore, there are as increased imports, there are increased risks, and Australia has to be on its front foot in managing those biosecurity to Australia. So, that is really where we are seeing the additional cost. And sorry, what was the second question, Nick?

Nick Housego:

The second question came in, which was, "Any estimate of the costs to shippers and senders for surveillance and treatment? At what rate is this expected to go up?"

Ben Rowntree:

The department puts in controls to manage risk. However, we have no say in the costs for treatment. Either onshore or offshore. The department is cost recovery when we do conduct our own control. So things such as inspections, I can't speak to the chance of those going up. However, whatever charges the department does provide as part of its ongoing fee for service, that would be in line with measures as dictated by the Department of Finance. I know it's probably difficult to answer but it's best I can give.

Nick Housego:

Given that New Zealand got a few references in those questions. Paul, is there anything you wanted to add or contribute in that conversation?

Paul Hallett:

There was a cost benefit analysis that was done by government industry partners that identify the costs of an incursion and the costs associated with management of it. I don't have figures off the top of my head. But yeah, the costs are similar to what Ben is saying from a New Zealand perspective. There is some cost recovery and there's some crownfunded involvement.

Nick Housego:

Okay, thank you. Brian, a really fundamental question. "How do I tell the difference between a BMSB bug and the other normal stinkbugs that I might find in my backyard?" [crosstalk 00:54:51].

Dr Brian Garms:

That's a really good question. They can be difficult honestly. There's a few species in Australia that look quite a lot like, excuse me. Quite a lot like BMSB. The department a few years back, published a bit of a pictorial guide to try to show some of the similar species and how they differed. But yeah to be honest, if you're really concerned or you're really unsure you're probably going to have to get someone to take a closer look. There's a few pictures online, but there are a few species that even I take two three looks at before I'm pretty sure what I'm looking at. So yeah. Yeah. It's a good question and is unfortunately there's not a simple answer. Most people go to the banding on the insect but there are a few natives that also have banding not dissimilar to that, and are brown. So hopefully that-

Nick Housego:

That's great.

Dr Brian Garms:

... Not a great answer but that's how it is. Yep.

Nick Housego:

That's why it's such a good infiltrator.

Dr Brian Garms:

I guess just while I'm on that, that is actually one thing that happened early on. It's looks like a lot of these sting bugs look very similar and so it was mistaken for native bugs both in Europe and in the US for a few years when it was their low levels. So it's that is an issue.

Nick Housego:

Okay. I've got one final one that's coming from Brahman Ravel. And Brahman, you'll have to apologise I won't be able to read out those scientific descriptions of those chemicals. But I will have a go at the question. "Despite us having aligned with New Zealand on treatment times and rates. A couple of seasons ago we still have one glaring difference. In the New Zealand insecticide treatment on arrivals, is permitted for watercraft or where there is a risk of damage from heat treatment or fumigation. They have approved these insecticides in the approved biosecurity standards." And there's a list of scientific words that will be well truly testing me. "But they say they are the maximum label rate." Are either of you able to have a go at that?

Nathan Reid:

I can jump in there.

Nick Housego:

Yep. Please do.

Nathan Reid:

I know I really can probably provide a half answer. But it really comes down to the data that our scientists would have available to assess the effectiveness of the treatment. And based on the one New Zealand as much as we can, there's still elements that we'd acknowledge that it won't be able to align. And some of that does come down to scientific analysis and interpretation. And others are just the way we operate our systems at the border. So probably not a comprehensive answer, but there are going to be some things in Australia and New Zealand just don't align on maybe one of them.

Nick Housego:

Okay. We are very much at time. So I'm just going to say thank you all for your participation. The questions have been rolling in, but we will try and endeavour to have these questions answered for you coming up in the near distance. Thank you very much and signing off from here in Canberra.