**Steve**

Hello everybody and welcome to detect and protect the Australian biosecurity podcast brought to you by the Australian Department of Agriculture, Water and the Environment.

Our podcast series is all about educating everyone about biosecurity in Australia which is vital to ensuring the safety of Australia’s agriculture and environment. My name is Steve Peios host of the podcast and today's episode is an exciting one it's all about the department's biosecurity detector dog team.

Now, the detector dogs and their handlers play a vital role at our airports and male centres helping to ensure that biosecurity risk items like food plants and meat do not arrive with incoming passengers or in mail items. Now joining me today is Colleen and Jeff from the team Jeff and Colleen thank you both very much for joining us today.

**Jeff**

Well thank you Steve, thanks very much.

**Steve**

Thanks for joining us, as I mentioned looking forward to having this great discussion with you both and I believe I'm going to hear some very interesting things today and I'm sure that all of our listeners out there will also hear about some of the really interesting and perhaps not so well-known things that happen at our borders. I know that we've seen plenty of reality television over the years about airports and that sort of thing, but the beauty of this is for us to really hear firsthand from our most important representatives on the ground which are you both - so thank you very much again.

The first question I'd like to ask of both of you is: how did you get into working with the detector dog team?

**Colleen**

Thanks Steve, I actually started back with the department as a biosecurity inspections officer in Brisbane airport. So, I used to come to work every day and see the dogs doing their thing, searching passengers and finding some amazing items. When the opportunity arose for a position as a dog handler in the team I jumped at the opportunity. I got selected for a course and I attended a six-week course here in Brisbane and later became a dog handler. I was a dog handler in Brisbane for about four years before I got up into the ranks of training and I have never looked back it has been the most rewarding and satisfying career path of my life. So, if it wasn't for working at the airport and seeing those lovely dogs doing their things I wouldn't be where I am today.

**Steve**

That's magnificent to hear Colleen. Magnificent. Jeff tell us about your experiences.

**Jeff**

Look, I was silly enough to be a professional dog trainer for about 10 years before joining the department as a dog handler back in the dark ages. And from there I was lucky enough to progress for a variety of roles, both with the detector dogs and with a whole host of different areas within the department.

It was only the last couple of years with the opportunity to come back and form part of the national team arose and again I left at it I guess the training dogs was always my first love and a really rewarding and challenging role so I was all over it.

**Steve**

That's so good to hear. I mean job satisfaction like that is absolutely fantastic and it's something that so many people really strive for in their careers in life, so to hear that both from you is something that it's putting a smile on my face that's great to hear and as they say - that dogs and our canine friends are, you know, man and woman's best friends - so you know in that respect it must add to the experience as well, knowing that you're working with such beautiful animals that you can create that bond with as well is that what it's like?

**Colleen**

Oh 100%. I tell you what every time the dogs find something that and you're working them it is such a joy to reward the dog and just have fun with them it's utterly completely satisfying.

**Steve**

No that's fantastic to hear that's really, really, good. Can you tell us both how the dogs are selected? How do we go about as a department picking the dogs that we use for this role?

**Colleen**

We travel down to Melbourne and see the Australian Border Force breeding centre down there. They supply our detector dogs to us, so we'll have a number of dogs available for us to choose from. We run all those dogs through a series of exercises. Those exercises we tailor make them to assess the dog's hunt food and retrieve drive, so we want to make sure that we're choosing dogs that have that basic instinctive desire to actually go out and hunt, do a basic search. And obviously we want dogs that thoroughly enjoy food and a good game of tug of war so if they have those, and if they're nice fit and healthy, they're perfect for us and we bring them up to Brisbane for a course.

**Jeff**

So, I guess the overall thing for us when we're looking at our dogs that we select - you heard myself and Colleen both talk about how much we love our job and get so much reward out of it - we actually need even more enthusiasm about work from the dogs that we pick. So that's the primary thing that we're looking for is dogs that love to do the tasks that we're asking them. Because that's you know how we motivate them, so we're really looking to see that, you know, the dogs that are suitable to perform the work for us or the dogs that just love doing that sort of work and we can't really stop them from doing it. And that they're also nice and sound and secure and we can you know they'll interact with the public safely and those types of things as well. But the big overall thing is that the dogs really love doing the work and they sort of nominate themselves very quickly when we start doing a selection process. You can see which ones are jumping up and down ready to go.

**Steve**

So, without standing too APS formal, is that part of how your selection criteria is determined? I guess you have those prerequisites which you can see. You make it sound like it's quite easy to identify. Is that generally how it is? It is quite genuine you can see the interest from the dogs, and they're sort of pretty easy to pick straight away who you're going to go after?

**Colleen**

Oh yeah, you know that when the dog comes out and it's hunting like it's been doing it all its life, you go “I want you on my team!” that's the dog. Other ones that come out and say “No, I don't have that much of a desire.”, you can probably guess that they're not going to make it. So yeah, we want those ones that really love what they're doing.

**Jeff**

It's a really interesting question because the standout dogs the ones that are 100% going to be successful really do identify themselves really quickly, but then there's - those dogs are rare I guess is the point - so not every dog is that big of a standout but that doesn't mean that they're not suitable. It means we have to work a little bit harder. And we're doing quite a lot of work at the moment around improving the way we select those dogs, so that the ones around the margins are actually more successful. As you can imagine it takes a lot of time and investment to train a dog, so the higher the success rate the better all around. So that's it's a good area that we're actually focusing on at the moment.

**Steve**

That's incredible, that really is incredible to hear and it's making me really think about the way the human characteristics…when you're in an interview for example, or you're in a position where you're striving for something it shows that you know these beautiful animals have that too. And some might be you know fantastic at the job but a little bit shy to get it out there so, that would also come back to your ability to pick them out there and that's something that's magnificent so that's so great to hear.

When it comes to the actual dogs themselves Colleen and Jeff, why do we use ‘labs instead of beagles?

**Colleen**

Sure, well we source our dogs from Australian Border Force so they're readily available for us and they've been purposely bred for the exact work that we're using them for so detection work. It's a lot easier to source these dogs obviously from them than in the past sourcing beagles from pounds or from other breeders, so it's readily accessible which is great for us.

**Jeff**

Certainly, and if we come back to that point I just made a moment ago about having a high success rate with the dogs that we select. When we're recruiting dogs from pounds and from private breeders etcetera, we would probably look at a hundred dogs before we selected one for the course. And then out of the 10 if we say we selected 10 for training, only perhaps two or three of those might have gone through the final program. And what we also found was those dogs were much more likely to retire early due to behavioural, health problems, those types of things. Since we've made the switch to the purpose bred ‘labs out of Australian Border Force program, we have a much higher success rate of the dogs that are selected for the course now pass, so well in excess of 50%, around 60% on average for the last year. And the other part of that is it's now very unusual for any of our dogs to retire early. They live a full working life and are productive for their whole career, so we get a good return on that initial investment.

There are also a few operational reasons why we want to see a Labrador as opposed to a Beagle and the prime one relates to the size. If you think about searching in an airport - and a large service that dogs provide in airports is “on body detection”, so people with items strapped to their person or hidden in their pockets etcetera, that we wouldn't find on a manual inspection of a bag. That taller dog is able to search up much higher on a person walking past without actually climbing all over them. Whereas a little short Beagle or another breed might not be able to get that height, so there's some operational reasons as well.

**Steve**

That's really heart-warming as well Jeff, in terms of the way that we're really looking after the dog’s longevity as well. I think by doing that it sounds like what we're doing is really placing a focus on getting that purpose specific dog that's going to do the best job for us. I mean that would also be adding to of the satisfaction you get out of it, knowing that you can get a long career for a dog that enjoys itself and you know it's not going to suffer any health problems or anything like that. Like with anything that's obviously taken some time to develop, but that's something that sounds very good to me as well. So that must be a real positive out of that, Jeff.

**Jeff**

Yeah, definitely. The big part for us as working dogs is people always ask me questions around the welfare of the dogs. It's really important for us. We don't have anyone that's a dog handler that isn't a bit of a “dog nut” so to speak. So, they're always well intentioned and very aware of the dog's welfare but there's also the incentive that we've invested a lot of money and effort in this animal as well so we need to make sure we look after it and get the most out of it regardless of the ethical consideration. I think the very first part of any new handlers training course is “animal welfare and handling” that’s the very first course that they do.

**Steve**

Beautiful, Jeff that is magnificent. Moving on now. Colleen, can you begin by telling us a little bit about their training now? So, we've gone through the selection process and what we're doing to ensure the best quality of dog and their longevity. Now what do they go through in terms of their training to get them to the very top of biosecurity detection?

**Colleen**

Yeah, sure. Well, I know from my point of view as being one of their trainers there's a lot of time, patience and effort put into training them and making sure we get the best out of them. It's really enjoyable. They come up to Brisbane and they spend between six to eight weeks there with us in the training centre. We focus on getting them across all our different target odours of biosecurity and being biosecurity, we have a lot of items. So, you'll hear a lot of detection dogs in different agencies they're trained to find a target specific odour, so just one specific odour. Whereas our dogs retrain to find groups of odours and we're talking upwards of 200 plus items that these dogs are trained to find.

**Steve**

That's awesome.

**Colleen**

It's a lot and to get them across that in six to eight weeks. It takes time but it is as I said before it's super rewarding. We've got to get our dogs to understand the difference between finding something that's a target like fresh fruit and making sure they're not responding to other items that passengers may bring through like bread items or cakes pastries. Obviously cakes and pastries are insanely appetizing to any of us and that includes the dogs. So, during their training course we try and make sure that they learn the difference between what they're allowed to respond to and what they're not supposed to. So, they go through a lot of exercises with us. We go through replicated environments for the different areas they work in - so the airport, mail and cargo as well. We'll teach the dogs to search passengers, to search mail items and even vehicles. So, it's a large range of stuff that happens within that short period of time. But when they finish with us, they go out into the operational field and they're straight in their working environment and they're out there finding things. So, in six to eight weeks we can get a lot done which is I think is pretty special.

**Steve**

That's excellent. That's really interesting stuff and I've got a follow-up question on that which I'll ask in a couple of moments time, but that sounds amazing and look at the end of the day we know that with humans as well, we all make mistakes. And that's very forgivable that's how it goes, and by the sounds of everything that Colleen just mentioned to me when it comes to their training they're getting the best possible training so even then you can expect the odd mistake here and there, but overall I know that the job they're doing is fantastic. I'll come back to that follow-up question in a moment because it's going to relate a little bit more to the day-to-day stuff Jeff. But here's two questions now that I know all of our listeners are going to love. I've been waiting to ask these ones the entire podcast and here we go. So please make me laugh and make me interested guys, because this is going to be superb What's the most common items that they detect at our airports and our mail centres? Now, I'll preface this by saying I'm sure there's a few things you may not be able to talk about but please, everything that's G and PG and sanitised, please run away with it because I know our listeners are going to love this.

**Colleen**

Okay, well now that you said that I've got to think! Look the most items that they find in those two environments actually relate to fresh fruit or meat products. So, a lot of people try and send in meat or fruit into the country. Fresh plants and seeds as well in ridiculously high amounts especially within the mail environment. So, that's people either not realising that you're not supposed to purchase things from overseas and get them sent to our mail centres. So, yeah plants and seeds. You can buy them here in-country and so that would be your safest option to do it, because our dogs will find it when it comes through. Likewise in the airport, the most common items would be your fresh fruit and your meat items. So, a lot of people bringing those items through - especially their lunch or their snacks from the plane. Our dogs they want to eat that too! So, they will find it and they will respond to it. And I know that Jeff does have some funny finds from past the only things that I can think of that are PG for good finds would be all the interesting meat products that passengers do bring in. So, your chicken feet your duck tongues…

**Steve**

Yeah, good Colleen, good.

**Colleen**

Whole chicken!

**Steve**

This is where I was where I was going to kind of go with next. I mean do you ever sort of get like a two-kilo pork roast or something that comes through?

**Colleen**

You do!

**Jeff**

Cooked and uncooked.

**Steve**

That’s what I mean! Please expand on this. Do you remember the old Jenny Craig ads where they'd have the three-kilo bag of oranges? “I used to walk around with these!” and do people carry that inside their jackets? I mean I could just imagine you'd have the odd funny circumstance. We're obviously trying to educate people, and don’t do that, but I can just imagine there'd be a couple of crackers over the over the time you’ve worked at the border.

**Jeff**

Lots of funny things and just weird stuff that comes through the mail that you think why you would post that like raw chicken schnitzels all those types of things. I think the funniest one that I can recall and it was from a fair while ago now was I guess an elderly lady coming through the airport and um the dog indicated to her um I guess at knee height and I couldn't work out what was going on and it turned out that she had a string tied around her waist and tied off with that waist were three or four salamis hanging down underneath her dress…

**Steve**

So, it’s my grandmother was it?

**Jeff**

Well that was very funny, I guess it did have a serious bent though because with African Swine Fever it's actually a big deal for us that we find that sort of stuff but um just the effort people will invest and the risks they'll take to try and bring something over that we could have bought at the deli here most likely.

**Steve**

That's the important thing to touch on here is that whilst we're having a laugh and that's what we want to do for our listeners is get them engaged and enjoying themselves, it is important to note that these things are serious biosecurity concerns so please, please, please the three-month cabanossi that's around the waist it'd be more preferable if you found your local deli or butcher that'd be the best way to do that locally once you arrive so superb. Colleen and Jeff thank you very much for those they were the ones I was waiting for, and I guess there you go chicken schnitzels in the post, superb. Please don't do that listeners, it's important that we don't do that and send that stuff in the mail okay. Moving on now guys once the dogs are deployed can you tell us about a typical day in the life of a dog and I’d like to now couple this up with the question that I had as a follow-up from before and that's about how much enthusiasm and how much happiness can you see in the dog when they have that regimented lifestyle. Do our dogs get weekends jeff and colleen do they get to get to take leave when they're feeling a bit tired just these sort of with the questions like that I’d love to be able to hear about that and for you to tell our listeners about a regular day in the life of our wonderful dogs.

**Jeff**

Yeah so I guess the if I give you an overview of how a general day would go first as a starting point then I might come back to those other questions absolutely because they are very good. So generally, the dog's day will start probably about the same time their handler’s day starts. They'll be at the kennels, if it's an airport shift, they could start at 5 am if not earlier they'll head off to their work location. On arrival they'll get a quick walk and a toilet stop, the handler will conduct a health and welfare check on them give them a once-over make sure everything's right from there they might have a little bit of free time if they're lucky or they might just jump straight into screening passengers until the morning coffee.

**Steve**

The morning coffee?

**Jeff**

In the morning if you're ever driving past the front of an international airport you'll often see the handlers out standing on the grass performing one of the less glamorous tasks of being a dog handler with their plastic bags making sure the dogs get out at least for a toilet break every couple of hours and from there it'll be screening , screening passengers, screening mail whatever. Every time they get to find something they get a reward whether that be a biscuit or a tug of war game or a play and they will tend to work on around a 50/50 ratio if that makes sense. So the duration could be a little bit different but as an example they might be out working passengers for say a 30 minute period and then they'll go and have a quick rest and a toilet break for 30 minutes while their handler processes all the seizures and does all the paperwork.

**Steve**

Ah great.

**Jeff**

Then they'll get them straight back out and go again so they die quite full incorporated into that there's probably around an hour's worth of maintenance training and skill development incorporated a lot of that occurs during live screening but then there's also opportunity to go around doing specific exercises towards the end of the day they'll generally get to go out for a brief walk and a bit of a stretch have a pat, a grooming session before they head back to the kennels um where they'll have a run in the day runs etc before they get fed and go to bed for the night. And that's pretty much a day in the life of a detector dog. I guess your question that really grabbed me was around the regimentation of the day and dogs love routine um they know it back to front and they really thrive on it they know what's expected of them so we definitely see that certainly I've seen dogs that have been retired for several years turn up at the kennel to stay overnight and jump out of the car and run straight past 20 other dogs to their old kennel run let me in its dinner time yeah

**Steve**

So, it's like almost intrinsically burnt into their heads jeff they just remember that they remember the glory days of out in the field

**Jeff**

Yeah, and they do like that routine they enjoy knowing what's about to happen next.

**Colleen**

They're probably also some of the best workers you're ever going to get because when you do meet them at the kennels or when they arrive at the airport they're already so happy it's like they've already had their morning coffee they are switched on and going okay we're ready let's go and they kind of just want to hurry up the handler along because all they want to do is work and that's great they've got the best work ethic ever.

**Steve**

Putting us to shame eh? Mate fantastic now that that's so good to hear that that really it makes me happy really and I know what I’m going to be applying for next guys so this has been a ripper for me now no that's fantastic.

**Jeff**

That's interesting the um they definitely most certainly do get weekends but um generally our dogs will come to work more often than their Handlers than the single handler um and that's one because we've got plenty of work for them but also because that's what they really given the choice that's what they would prefer to do.

**Steve**

That’s what they want to do right.

**Jeff**

…now we've got nice big grassy day runs at the kennels some of them have got swimming pools toys all sorts of things given the choice they'll come to work um and so we try to avoid keeping the dogs in kennels for too long because they get bored and they'd much rather be at work so we'd rather bring them in and let them do what they like doing it's the pet dog version of going for a walk at the park is going to work yeah and they love it.

**Steve**

Now that's so great to hear um can you tell us jeff a bit about what they do uh and colleen when they're retired so when we have those I mean you just mentioned that great story then about a dog that's come back to its old stomping ground and first thing you did was remember exactly where it used to be what's the what do they do when they're retired and when it comes to that process I guess what is the what and how is that decision made um when it comes to them actually retiring.

**Colleen**

Yeah well I guess I can give you an example like I have my old working dog at home with me once he retired he got to spend the rest of his days with me and my family and he was one of those dogs that he retired and he went sweet no more work ever again.

**Steve**

Yeah

**Colleen**

In the entry and sat in there salivating and leaving a big puddle of drool waiting for a reward at one point and I'm like yeah this is all stuff you're supposed to respond to but not at home um they just have a relaxing life like he's the most loved pet ever my kids absolutely adore him um he's spoiled rotten now I don't know if he would remember his work anymore because he's been that spoiled but they just get to live the best life ever so they tend to be retired at about eight years of age so they have a great a great time for eight years working and then they still got plenty of time left over to enjoy retirement just like everyone else does when we retire but yet they'll they're retired only when they need to need to be.

**Steve**

Yeah so you sort of get any you get an indication of that colleen if it sort of comes to a time where may when we all we all slow down we all get a little bit tired a little bit yeah all that sort of stuff the fitness goes perhaps the attention all that sort of thing is that the sort of things that you look for to get to that point.

**Colleen**

Exactly yeah, we do so again like my fellow that he's retired at home he got to that point he'd slowed down in his work, and he was just getting to that that old age of ah I'm a bit tired now I just want to have a rest and relax and people bring me food instead of me looking for it.

**Steve**

If I could just ask a quick one of you Both what age do we get them do we get them at sort of like is it one or two or even younger than that older than that what age do we sort of get them and what's the general lifespan of their careers

**Colleen**

Yeah so um the dogs that we select they're aged between 12 and 18 months okay so they're quite young very um immature some of them and then yeah we hell have them up until about eight years nine years of age is when we look at retiring them.

**Steve**

magnificent no that's great a couple of questions to uh to finish off here now colin and jeff this has been a magnificent podcast so far so I hope all of our listeners are really enjoying this this is this is excellent in terms of the amount of information and how engaging it's been so thank you both um talking a little bit now about the future and the sort of changing nature of biosecurity and also the world that we're in now as well guys with a pandemic at this present point in time and that's obviously caused perhaps a bit of a slower work life maybe for some of our dogs in recent times but what are some of the new and innovative ways that the dog are being used now so for example we've had things like Khapra beetle like Brown Marmorated Stink Bug (BMSB) as new things are they looking to be used for things like that and detecting that sort of stuff or what are we looking to do when it comes to Innovation.

**Jeff**

Yeah so certainly we've actually innovation I guess is that key word we've been lucky enough to have a couple of projects funded under the innovation program and one of those was around the detection of BMSB so we actually got to partner up with University of New England and develop a solvent extract that replicates the odour of live BMSB so if we go back to how our dogs are trained traditionally it relies on having the item that we want the dog to find so that we can present it to the dog and they can smell it and say this is what you want we want you to find um given the risks of brown marmorated stink bug no one really wanted to let us bring BMSB into the country and train with which is fair enough, so what we did was develop this this extract which replicates that odour and we were able to train dogs to find the Brown Marmorated Stink Bug using that they've been used on wharf at Brisbane and Perth for the last two seasons as a verification tool so actually looking to verify that there's nothing there as opposed to finding it but what they have found in doing that is they've found several freshly dead stink bugs so their treatment was working and also a couple of different species of stink bugs so very similar so we're quietly confident that's working quite well the other part that we've looked at is um around a remote air sampling or dog's sampling odour that's been drawn say from a shipping container from an or from another environment so rather than having the dog actually search the actual item we collect the odour and then the dog searches the odour at a later time and place which allows things to be much safer a big thing that we've utilized that for has been in the use of a feasibility project around the ability of dogs to work and find COVID-19 infected patients that's part of a that's part of a broader project led by the Australian Border Force and Adelaide University and that's around taking sweat samples from patients and presenting that to a dog for a later date it's still very much in the early phases nothing's been peer reviewed or published as yet but initial results have been quite good so.

**Steve**

That is cool, that is cool that's fascinating I mean that's when you're talking about innovation now jeff and being able to really advance our capabilities to find things and to I mean it's a helpful thing anyway as well when it comes to COVID-19 it's a little bit less about you know a punishment thing per se of you know you bringing this in what are you doing you can't do that it's about helping people now it's about helping prevent the spread it's about I mean no one's no one out there wants to catch COVID-19 and no one out there wants to catch the flu or cold or anything like that so that to me sounds absolutely amazing is that I mean is that something that's going to get the advancement in it I mean you know what I’m trying to say I mean we're going to

**Jeff**

It's still early days at this point in time so I know that's part of broad research that’s going on all around the globe into it um and I know some countries have deployed dogs for this purpose um but at this point in time we're still looking at whether it's readily operationalized and that's a big part of the collaboration with Border Force and Adelaide university is looking at can we transfer the results in a lab to a real-time environment and that'll I think largely influence the success of it or not

**Steve**

Well listeners you heard it here first innovation at its finest here in the Australian Government that that to me is absolutely fascinating so we'll watch this space Jeff so you're going to be back in now in the next few podcasts to give us an update on that one mate but all right final question for you guys colleen and jeff what are some of the other ways that detector dogs are used across Australia for example detecting water leaks ants our friends our fire ants and also koala scat things like that are there ways that our dogs are used in other capacities across the country as well.

**Jeff**

Definitely, not so much our dogs if that makes sense they're not the department's dogs but there's a huge cohort of people training dogs around the country for a whole heap a host of purposes um certainly the stuff that you've mentioned around water lakes koala skat etc fall under that broad umbrella of conservation dogs um and they yeah they're certainly used in huge different environments the water leak stuff I've found particularly interesting in that the dog will find the source of a leak in a pool of water the size of a football ground will find the actual location of the lake just by the odour of the chlorine in the water be yeah because that water's been treated and they can find that spot so instead of having to dig up 300 meters of pipeline they just go and dig a hole you know you know a 10-foot radius and repair the leak um I thought that was really fantastic particularly given how big an issue um you know water security is for us in this country.

**Steve**

I'm beyond impressed with that, and it’s also exacerbated how useless I am because I tell you what these animals are so good at what they do and then that's just incredible to hear that they're so good and I just think god I’m hopeless so that's brilliant that's really great keep going jeff excuse me.

**Jeff**

Oh and look the noses are really good I know they've used dogs for I guess two key purposes in that conservation field especially and one is identifying the presence of native species that might be endangered so whether that's looking for Quolls or bird life etc that might be under threat and so they'll generally those dogs will find the animals’ scat and they do a survey in that regard to say oh this is an estimate of the numbers or this is where the populations are and the other part of that is around identifying predators and generally introduced species such as foxes is probably the big one and they'll understand where that where the finding fox is, Lord Howe Island use dogs extensively for their rodent and eradication program and they've only they were very successful they've just had a recent outbreak as the rest of Australia has with rodents and they're using dogs again to address that.

**Steve**

Much publicized Jeff yes no fantastic Colleen anything you want to add on to that one?

**Colleen**

No just it's absolutely amazing to see the work that does get done around the country by avid dog fans um getting them out there and actually searching it's making such a great use of their skill set so it's great to see and I look forward to seeing what happens in the future especially with where we can go as well as a department.

**Steve**

yeah absolutely and as I said a moment ago I can't wait to hear the follow-up on some of these things and even so before jeff when you touched on the fact that it's not our dogs as a department but that sounds like they're a big they're a big government-wide cohort of wonderful dogs doing such a great job which are trained and run by you know wonderful people such as yourself so today's stories have been absolutely magnificent and I must say as much as we're all across many items of the department and as much as we all intertwine with each other there's just no substitute for being able to hear from people who are so invested in their work and to get that information because you know I’m going to walk away from this and I know all of our listeners will walk away from this and go wow to that work and if anything it might even entice a few people out there to apply for a job or to look into that as a career because it can really see you know the happiness in both of you and how much great work you're doing so. May I say on behalf of myself a big thank you to you both thank you very much colleen and jeff for joining us on our podcast detect and protect magnificent stories today I’ll take away a few of the schnitzel stories and pork roasts and all the rest of it but even so you know dogs that can detect you know a water leak on an area the size of a football field is magnificent so my heartfelt thank you to you both for joining us on this episode and unfortunately you've been so good that we're going to have to rope you in again in the future for another one so thank you very much to you both.

**Jeff**

Thanks very much Steve.

**Steve**

Thank you, Colleen, thank you Jeff a big thank you to all of our listeners for tuning in to our podcast today that was as informative as we’re going to get and we’re going to get plenty more of that out there for you. So please continue to subscribe and add all of the links below in our comments field you can find more information on Australian Biosecurity on the department's website links will be available as I mentioned in the episode description so make sure that you subscribe to our podcast series to keep up to date and learn more about Australian Biosecurity as I mentioned before do not bring those cabanossi over the border there's plenty of local butchers in all of our cities that can do a fantastic job a big thank you to our producers Shane Faulkner and Sam McKeon for putting this wonderful podcast together and we'll see you again on the next episode of Detect and protect.