

# TRANSCRIPT

## LEGISLATIVE COUNCIL ECONOMY AND INFRASTRUCTURE COMMITTEE

### Inquiry into Pig Welfare in Victoria

Melbourne – Tuesday 26 March 2024

#### MEMBERS

Georgie Purcell – Chair

David Davis – Deputy Chair

John Berger

Katherine Copsy

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Tom McIntosh

Evan Mulholland

Sonja Terpstra

#### PARTICIPATING MEMBERS

Gaelle Broad

Georgie Crozier

David Ettershank

Michael Galea

Renee Heath

Sarah Mansfield

Rachel Payne

**WITNESSES** (*via videoconference*)

Tammi Jonas; and

Dr Claire O'Brien, University of Canberra.

**The ACTING CHAIR (Katherine Copsey):** I declare open the Legislative Council Economy and Infrastructure Committee's public hearing for the Inquiry into Pig Welfare in Victoria. Please ensure that mobile phones have been switched to silent and that background noise is minimised.

I would like to begin this hearing by respectfully acknowledging the Aboriginal peoples, the traditional custodians of the various lands we are gathered on today, and pay my respects to their ancestors, elders and families. I particularly welcome any elders or community members who are here today to impart their knowledge of this issue to the committee or who are watching the broadcast of these proceedings.

Welcome to any members of the public who are watching us via the live broadcast. I will just now ask committee members to introduce themselves, starting with Mrs McArthur.

**Bev McARTHUR:** Bev McArthur, Western Victoria Region.

**Gaëlle BROAD:** Hi. I am Gaëlle Broad, Member for Northern Victoria.

**The ACTING CHAIR:** And I am Katherine Copsey, Member for Southern Metropolitan Region.

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All evidence is being recorded. You will be provided with a proof version of the transcript following the hearing. Transcripts will ultimately be made public and posted on the committee's website.

For the Hansard record, can you please state your name and any organisation you are appearing on behalf of. We will start with Tammi.

**Tammi JONAS:** Thank you. It is a pleasure to be here today to address the inquiry. I am Tammi Jonas, joining you from unceded Dja Dja Wurrung country, and I am a farmer here of pastured pigs. I am also a butcher and in the process of building a small-scale abattoir on our farm. I got my meat inspector licence last year to work in the abattoir. I also just finished a PhD in agriculture and environment from UWA, and I am also the president of the Australian Food Sovereignty Alliance and do a lot of work with the UN FAO committee on agriculture.

**Claire O'BRIEN:** Hi. I am Associate Professor Claire O'Brien. I am an academic at the University of Canberra. I did my PhD in medical microbiology, and I have recently published a large study on antimicrobial resistance in bacteria isolated from chicken and pork meat. I think that is enough.

**The ACTING CHAIR:** Excellent. Thank you very much. Welcome to today's hearing. I now welcome your opening comments and ask that they be kept to a maximum of 10 to 15 minutes to ensure we have plenty of time for questions and discussion. Take it away.

**Tammi JONAS:** Thank you. As I said, we farm pastured pigs here on Dja Dja Wurrung country in the Central Highlands of Victoria. Some of the experience that I will be bringing today is very personal from farming over the last 12½ years, and having listened to the inquiry all day and read many of the submissions, we find it quite surprising to hear stories of the need for tail docking or teeth clipping in pastured systems, because it has absolutely not been our experience nor that of the other small-scale farmers that AFSA, the food sovereignty alliance, represents. I will talk about that later a bit.

The other aspect that we bring to this is that there is a lot of concern around biosecurity that is brought into an animal welfare inquiry, and we would argue that biosecurity is often used as a kind of obfuscation. I understand there is a real problem of illegal trespass onto shedded pig operations, and we do not condone trespass. However, biosecurity risks have been rising with the rise of intensively produced livestock. Many novel forms of influenzas are coming out of sheds, and we would say that that kind of biosecurity approach comes from the very production model itself. We would advocate for systems like the ones that we operate where animals are out in biodiverse environments, where there is a much more resilient kind of ecosystem to support their immune systems, and that that is how we could get away from the biosecurity concerns. It also means less people are likely to invade your farm, because you are not confining animals in sheds. I think that is another aspect of it.

In regard to the question of enrichment and confinement that has been discussed a lot as well, enrichment is pretty inherent in an ecosystem like a pastured pig farm, so there is no need for toys or buying bowls or things. The nesting instincts of sows are easily met when they have access to straw in a pasture that they then actually bring into their little farrowing – it is a shed, like a Quonset hut if you like. They gather that and make a nest themselves. I would also say in our systems – we have surveyed our members, and we have hundreds of small-scale farmer members across Australia. I do not have the exact figures on how many of them have pastured pigs, but what we have seen, and it was in our submission, is that the pre-weaning mortality in our systems still falls in that 10 to 15 per cent range, and the sheds also report about 11 per cent, I believe. So we do not think that the farrowing crates are warranted by the pre-weaning mortality rate in either system.

Then I will take us through to stunning just quickly to say that we have been on the record for a long time as concerned about CO<sub>2</sub> stunning. We also do not really have much choice in terms of our access to our abattoirs in Victoria and the other states also. The consolidation of the industry has meant less and less options for small-scale farmers to choose where we conduct slaughter, so our pigs are stunned with CO<sub>2</sub> and we do not like that method. I have worked in the abattoir because of doing my meat inspection training, and I have seen distressed pigs in that setting. As the research shows, not all of them, and as they say, there are a lot of reasons why some pigs react with stronger stress responses to the CO<sub>2</sub> than others, but the fact that there is one and that it is not an instantaneous method, I find it surprising that it is called stunning, because it takes 20 to 30 seconds, whereas an electrical or captive bolt means an instantaneous stun.

So we would submit that a system that does not require such high throughput and speed over the line to operate is actually the best way to back ourselves out of a system that is inherently reducing animal welfare. If you slow things down, you grow animals. I like to point out that 70 per cent of the world's food is produced by smallholders, even though that is very strange in Australia because it is mostly broadacre farms in this country. In the global majority world, it is 70 per cent by smallholders, and those are mostly on less than 2 hectares of acreage. The world can be fed by small-scale farmers because it is, so we would advocate a system that starts to deconsolidate and actually has more farmers in communities growing animals and using smaller abattoirs like the one that we are building here on our farm so that you do not have to put them through in volume and use CO<sub>2</sub> stunning. There are much better methods with proximity to the farmers and the handlers. I think I will stop there.

**The ACTING CHAIR:** Thank you. Associate Professor O'Brien, did you want to make some opening comments?

**Claire O'BRIEN:** Yes. I guess I have been invited to this inquiry due to my expertise in antimicrobial resistance. We know that a lot of antibiotics are used in the pig industry either prophylactically or in the feeds. It is very hard to get any real data or information in Australia, which is frustrating for an objective researcher such as me just wanting to understand how antimicrobial resistance is being spread within Australia and the extent of it. We know that antibiotics are used to directly kill bacteria and antimicrobials, maybe biostatic as well, so reduce the multiplicity of bacteria. But we also know that they ruin our gut microbiome, and this is the same for pigs. They have a very diverse gut microbiome like we do, and our gut microbiome carries out many functions that we cannot do ourselves – for example, synthesise vitamins, for example vitamin K, which we need for blood clotting. It breaks down indigestible fibre in our diet, it modulates our immune system and it protects against pathogenic bacteria, so in that sense it just seems ludicrous to me and backwards that antibiotics are used to treat these animals prophylactically. We know that they reduce the diversity and evenness of the gut microbiome, which makes it more susceptible to pathogenic bacteria as well.

Another thing is the gut microbiome is transferred from mother to child or pig to piglet, so the microbiome that is being destroyed by the antibiotics is being passed on to the next generation. All of the chemicals and antibiotics used in production drive antimicrobial resistance, which of course can be spread via mobile genetic elements to other strains and species of bacteria, and they can make their way through the food chain, which has been demonstrated in the large study that we just conducted. These plasmids or mobile genetic elements containing antimicrobial resistance genes can make their way into species of bacteria in our own guts, which may then make it through to the hospital. Some of the genes that we identified in our study have been identified for the first time in Australia in particular variants of mobile colistin resistance genes. Colistin is a last resort, an absolutely last resort antibiotic to treat multidrug-resistant infections. We have seen a new variance of these MCR genes which we have not seen in Australia before.

We also did not limit our study to typical foodborne pathogens such as *E. coli* [Zoom dropout]. We wanted to look at all the bacteria that was making it through to the food chain and look at the diversity of the antimicrobial resistance genes and their phenotypes. This allowed us to discover that the antimicrobial resistance genes are there, but if you were just to conduct surveillance of those common foodborne pathogens, you would not have detected them. I guess I would also say that Australia really needs regular surveillance monitoring to monitor antimicrobial resistance. Every study or report that I seem to read says that antimicrobial resistance is low in Australia – well, we do not really have the data. We have not done any proper studies recently, and the studies and surveillance I think need to be independent of the producers – i.e. they need to be funded independently and driven by government. I think that is enough for an opening statement.

**The ACTING CHAIR:** Yes, that is. Thank you. Wonderful. Now committee members will take some time to ask questions, and I am going to kick off this hearing's round of questions. My first question is actually a great segue from where you left your opening statement, Associate Professor, because my first question is: it is my understanding that Australia is one of the only countries that has not made data readily available to the public and has not publicly released data on antibiotic usage by farmers since around 2010. Is that accurate, to your knowledge, and what do you make of that? What are the issues that that presents for someone in your field particularly?

**Claire O'BRIEN:** Yes. It just means that we cannot put the pieces of the puzzle together. You know, we have found these gene variants that confer antimicrobial resistance to last resort antibiotics, but we cannot determine the extent of it and we cannot make any claims that this is due to antibiotic use because we do not know which antibiotics are being used. So, for example, most of the MCR genes that I identified in this study were associated with mobile genetic elements, which means they can be transferred to other species as bacteria et cetera, and on the same plasmid you have other antimicrobial resistance genes.

Now, the antimicrobial resistance to an unknown antibiotic may be important. So, for example – I have just got to remind myself; that is right – we had an antimicrobial resistance gene for beta-lactamases; they provide resistance against antibiotics such as penicillins, for example. So if penicillins are being used in the pig industry, that could be driving the resistance in those particular bacteria, and so the plasmid is being maintained because of the antimicrobial resistance towards perhaps the penicillin – not necessarily that last resort antibiotic, because we know colistin is not being used in the pig industry. But on the same plasmid there may be selection for another gene. But without the knowledge of what other antibiotics are being used, we cannot figure out cause and effect and the full cycle of antimicrobial resistance. I hope that makes sense. Please, I can say it in another way if you like.

**The ACTING CHAIR:** No, that does make sense. Thank you very much. I will go now with a question to Tammi: Tammi, can you tell me, as someone in the industry looking to promote welfare outcomes, what was your reaction to the 7.30 report on pig gassing, and how do those practices differ from the sorts of practices that you are utilising?

**Tammi JONAS:** Yes. We actually were one of the farms in the story, and our reaction was that we knew that CO<sub>2</sub> stunning is with an aversive gas and that a proportion of pigs were likely to have a very stressful reaction. The halothane gene is often talked about. Pigs that do not have the halothane gene are meant to have a lower stress response. We have been reassured that our breed – large black, an old, rare breed – does not have the halothane gene, so we have just sort of sat hoping that that meant that our pigs were not having that experience when they were being stunned. I mean, you never know with this kind of footage, but it did seem like it was a pretty high proportion of pigs having the reaction, and that certainly galvanised – we were already

working on our abattoir plans, but that made us feel that the issue was more urgent. We have even considered whether we would stop slaughtering pigs until the CO<sub>2</sub> stunning issue is resolved, but if we do that, then it is just industrially raised pigs available to everyone if the small-scale guys say, 'Well, we're not going to raise and slaughter pigs.' So we are using what we have until we build another system.

**The ACTING CHAIR:** Thank you. Something else that we have heard from some other witnesses is around the stress that pigs experience being handled. Do you think it is too stressful for pigs to be handled in order to provide pain relief if surgical measures are going to be undertaken on them? Does the cost outweigh the benefit there, or is that something that you would think is a good practice?

**Tammi JONAS:** Yes, it is interesting. It is probably one of the few times you will find me agreeing with some of what was said, because piglets are really stressed at being picked up. If you have ever picked up a squealing piglet and you have really good hearing in the higher pitches, you will know it is not the most pleasant thing to do. I do think there is an argument for not having too stressful incidents of being picked up by the handlers, but I actually would also argue that the tooth clipping and the tail docking should not be required. In a healthy production environment there is no need to be doing those things. We have heard of students being taught in some of the veterinary courses – we have had vet students here, and I will not say what universities – that pigs, even in outdoor systems, must have their teeth clipped and their tails docked, and we do not know a single pasture grower who has ever done those things. We never have incidences of tail biting. So when they talk about it being multifactorial and that they have no idea why tail-biting outbreaks happen, we are like, 'It's because they're confined in sheds; there are too many animals too close together who are bored and stressed.'

**The ACTING CHAIR:** Thank you. How do you think confinement – such as farrowing crates, gestation stalls – affects pigs? Can that impact be erased by less time spent inside those sorts of confinement measures, or do you think they need to be phased out?

**Tammi JONAS:** We think they should be phased out entirely. As somebody made the point earlier today, I think it was RSPCA, the farrowing stalls still do not allow them to turn around, and so they lie down and they stand up and they often carry sores on their back from rubbing up and down those bars. We think it is totally inhumane, and we do not think there is any argument for it – especially as, as I said, the pre-weaning mortality in a well-run pastured system is also relatively low. You will always lose some piglets – not in every litter, but across the herd over time – but there is no argument, we think, for confining sows like that as a measure. We think the whole production model needs to change.

**The ACTING CHAIR:** Thank you. And just one more from me to you, Tammi, at the moment: speaking about production volumes and also consolidation in the industry, as someone within the industry, do you think people should be eating less meat or thinking more about where their meat comes from – consumers?

**Tammi JONAS:** Yes, we generally do, because Australia is one of the highest per capita meat consumers in the world. On our own website we sell meat for a living and we say, 'Eat better meat less,' which is this slow meat mantra. So yes, we do, but I also would be loath to take this down to a problem of personal responsibility, because the industry does an awful lot of promoting higher meat consumption. So I would tackle it from there rather than the fact that people eat too much.

**The ACTING CHAIR:** Thank you. Just before I hand over to Mrs McArthur, I will come back to you, Associate Professor. You touched briefly on the impacts of antibiotic resistance on human health. I am interested in your observations around antibiotics exposure in the pig industry and how this can impact human health – just a list of the ways that it can go up the food chain, if that makes sense.

**Claire O'BRIEN:** Yes, sure. In the study that we recently conducted, we isolated hundreds of different bacterial strains from both chicken and pork meat, so we had about 160 pork meat samples. We obtained those samples from the four major supermarket chains across 40 of the 50 New South Wales/ACT electorates, and we found that – sorry, I am just pulling up some stats because I want to make sure that I get them correct – on average 72 per cent of the isolates were resistant to one or more antibiotic, and that 10 per cent of the bacterial isolates from one supermarket, so I am only talking about the pork isolates here, were multidrug resistant. As I said before, antimicrobial resistance genes exist on mobile genetic elements that can be transferred to other strains and species of bacteria, and it is really just a matter of time before these genes do transfer to other bacteria. So it is kind of a ticking time bomb.

We do have colistin-resistant genes in Australia now, and if they are being maintained through use of antibiotics, whether it is that particular antibiotic in hospitals or it is another antibiotic in the food production system which is on the same plasmid, for example, that drives its presence in the environment or in bacteria, then it is only a matter of time before we see those particular genes move to pathogenic bacteria within hospitals in the community, and infections are just going to get harder and harder to treat.

**The ACTING CHAIR:** Thank you. Mrs McArthur.

**Bev McARTHUR:** Thank you, Chair. My first question is to Tammi. Tammi, while you speak of an ideological and utopian perspective about food supply going back to a village-style system, do you really believe that this is a practical way to go about feeding a growing population?

**Tammi JONAS:** Yes. It is not just a belief that it is practical, it is pretty clearly evidence-based that most of the world is still eating that way, even though Australia is not, as I acknowledged in the beginning. I do not think it is a question of being utopian either. I mean, I am talking about the reality of the global south, which is 80 per cent of the world's population. Eating food that is grown in communities and fed within those communities is happening in most places except the highly industrialised countries, especially the countries like Australia, Canada, Brazil, the late colonial countries. They are the ones who have broadacre farming and who produce and export most of what they grow. We export like 72 per cent of what is grown in Australia and it is not actually eaten by the domestic population, which also indicates you could easily feed this population with a lot of smallholders around the place. It would be a really different society if people growing the food were connected to those who were eating the food and we did not have all of our processing facilities and our retail outlets controlled by ever fewer corporations – and that is certainly what we advocate for. We work with people from the majority world, the global south, who share those stories of what that looks like, regularly.

**Bev McARTHUR:** Are you suggesting we should not be exporting our food?

**Tammi JONAS:** I do not know that that is entirely relevant to the animal welfare –

**Bev McARTHUR:** Well, you just referred to the fact that –

**Tammi JONAS:** Actually it is probably super relevant, right? I think 100 cattle just died in live export today, they just reported on the ABC. So I do think there are certain aspects of export that we should not be engaged in. Certainly live export is relevant to questions of animal welfare.

**Bev McARTHUR:** Even processed meats – we should not be exporting milk or meat or products?

**Tammi JONAS:** That is a longer conversation I am very happy to have with you, but perhaps the pig welfare is what we should stick to at the moment.

**Bev McARTHUR:** How many pigs do you have on your farm?

**Tammi JONAS:** We have about 100 at any time in the herd. We have nine sows and two boars.

**Bev McARTHUR:** What sort of acreage do you have?

**Tammi JONAS:** We are on 69 acres.

**Bev McARTHUR:** Do you have any problems with foxes?

**Tammi JONAS:** Occasionally we do, absolutely. My husband's main strategy for that is to run the ABC overnight in the height of fox season to deter them. But I actually find that the –

**Bev McARTHUR:** He runs the what? Sorry, what does he run?

**Tammi JONAS:** He plays the ABC overnight, and that deters them. I am sorry to say the ABC, but it does – ABC classical.

**The ACTING CHAIR:** Mrs McArthur will agree with you there.

**Bev McARTHUR:** It might be the only use for it. We also heard that birds and rabbits can also bring in diseases to the farming of pigs outside. Do you find you have any problems with that?

**Tammi JONAS:** No, we do not have any problems with that. Again, I think that in a healthy environment with a lot of ground cover – we have a lot of grass and we have shrubbery and we have trees and we have quite a lot of different species in our environment, and so unlike a monoculture it does not suffer the vulnerabilities that a monoculture does. We do not encounter a lot of disease in our system at all, whether it is passed from other species or other things coming in. It is just a much more resilient system. And again, there is a huge body of work on agroecology globally, which is what we are oriented towards, and those are much healthier production environments.

**Bev McARTHUR:** Have we got more time, Chair?

**The ACTING CHAIR:** Yes.

**Bev McARTHUR:** A couple of questions for Professor O'Brien – Claire, could you please provide an overview of your involvement and contributions to the pig industry, including any research, teaching or consulting roles that you have undertaken?

**Claire O'BRIEN:** Yes. I have only conducted one study into antimicrobial resistance of bacteria isolated from pork meat. My expertise in the past has been in the gut microbiome as it relates to human health and disease. The study that I conducted was commissioned by Animals Australia. So having the expertise to look at antimicrobial resistance, they approached me to do the study, and I took it as an opportunity to do something a bit different and look at the pig industry – well, look at antimicrobial resistance in retail meat. I teach microbiology at the university level, so obviously I teach basic microbiology through to infectious diseases, and that is both animal and human health. Does that answer your question?

**Bev McARTHUR:** Sure. How do you engage or collaborate with industry stakeholders, government agencies and fellow researchers to ensure that your research findings are translated into practical applications beneficial to the pig sector?

**Claire O'BRIEN:** Well, it is really difficult. Obviously I presented the findings at a conference – that was a conference overseas, which was directed at antimicrobial resistance in animals and environment, in France last year. Being new to this, the pig industry, I have not had a lot of involvement with industry or government. It is very difficult being a researcher in the microbiology space trying to find research funding, which is why I have not done a lot of further work on this yet. But I would welcome ministers, industry or whoever to just come and talk to me and have a transparent, objective conversation about this, because as a scientist – yes, I conducted the work that was commissioned by Animals Australia, but we are objective in everything we do as scientists. So, yes, it would be really great if our research was accurately reported in the media. Things like that would help in terms of getting the messages across – the key take-home messages from these studies that we undertake. You know, we are not lashing out at industry, we are just trying to present the findings and put forward the key messages that need to be heard.

**The ACTING CHAIR:** One more.

**Bev McARTHUR:** Okay. Well, if it is any help, we politicians have trouble getting our accurate story out through the media as well. But you are not suggesting that any of the other scientists that we have heard from, and we have had a huge range of them over these periods, are producing irrelevant or unsubstantiated research or biased research, are you?

**Claire O'BRIEN:** No, no, no. I think every scientist works objectively.

**Bev McARTHUR:** Good.

**Claire O'BRIEN:** You have got to believe that. You have got to believe that that is what they are doing, but if research is only funded by industry or only funded by –

**Bev McARTHUR:** Animal activist organisations?

**Claire O'BRIEN:** animal activist organisations, yes, then there is always going to be this sort of, 'Oh, do we really believe it?' I know that I am presenting accurate, true findings, but everybody is going to cast doubt, whether you are being funded by animal activists or welfare groups or industry. So I think government needs to take the lead on this type of research, and we should be doing surveillance on a regular basis, and we need to extend that surveillance beyond the regular food pathogens that are usually included in surveillance studies to make sure that we are capturing the full extent of antimicrobial resistance but also so that the findings of independent research are not muddied just because we do not have any other avenues for funding. The funding rates for the Australian Research Council and the National Health and Medical Research Council are really low, and it is really hard to get funding to do research. Often we do accept funding from these bodies, but we are doing objective research and I think both sides are presenting objective research. But often funding will come with caveats, and while I was happy with the design – Animals Australia let me design the study and basically do what I wanted – that is not always the case. Funding bodies can say, 'I only want you to research X, Y, Z,' and then you are limited in what you can do. It would be great to have more funding from government so that bigger studies and surveillance studies can be conducted.

**Bev McARTHUR:** Just to confirm: you are not casting aspersions on any of the scientists who have presented evidence before us.

**Claire O'BRIEN:** I am not sure who presented evidence beforehand. Sorry, I am very time-poor these days, so I have only jumped in at 10 to 4 to present my work. I assume if they are scientists, they are presenting objective findings within the confines of the funding that they have received.

**The ACTING CHAIR:** Thank you. I think you have answered that question. Thank you, Professor O'Brien. Ms Broad.

**Gaelle BROAD:** Thank you, Associate Professor. I will just start with you. When you talk about the media misreporting, what would you like to correct?

**Claire O'BRIEN:** Look, it is really hard to get complex scientific concepts across to journalists. Often if they do not get it, they will leave out key points that you are trying to make. In my case, I was doing a project funded by an animal welfare group; they left the comments therefore open to other parties who obviously did not want to support the findings because they misrepresented them. We need better science journalists, I guess, reporting on these issues and scientists that are better able to communicate the findings as well. Often it is just that findings are misrepresented because people do not understand them or because other parties are left to comment on them, and they are seen as sort of 'the other side'. That is my impression.

**Gaelle BROAD:** Thank you. I guess from the committee's perspective we have not received a formal submission from you, but you made reference to industry being able to approach you. Are you able to share directly with the industry, or is there anything preventing you from doing that because of the way you are funded?

**Claire O'BRIEN:** No, our findings are out there. They have been published in the journal *Frontiers in Microbiology*. They are open to everyone. I wish industry would do the same thing: report their data on antibiotics and antibiotic usage to help us as well. We have made such huge progress. If we knew what antibiotics they were using, what doses, how frequently, things like that – so transparent data access would be fantastic on both sides. Ours is out there in the public for anyone to see, including all the metadata and the supplementary material.

**Gaelle BROAD:** Just from my understanding, it sounds like this is your first focus on the pig industry, is it? Have you got prior experience? Would you be able to comment on international comparisons at all?

**Claire O'BRIEN:** Obviously, I had to read all the literature internationally, so I could speak to that. But it is hard to say. We did not do a traditional surveillance study so I cannot comment on the frequency of common foodborne pathogens. We focused on a particular subset of bacteria, gram-negative bacteria. They are much easier to grow in the lab, and we were doing it on a large scale. So a lot of our data is not comparable, also because we kept our study quite broad and wanted to look at the full spectrum event – antimicrobial resistance genes and phenotypes in all bacteria. I think ours is probably the only study to have done that. It is quite novel. We have been criticised for that, but I think it is a real strength of the study. We used whole genome sequencing to identify all the antimicrobial resistance genes within the bacteria within the meat. Nobody has taken that



approach before. So there is not a lot of data that is comparable with other studies, but that is what you do in science – you do novel stuff. I am a scientist. I am interested in answering questions, not doing routine surveillance studies, which I think is the job of government.

**Gaelle BROAD:** Thank you very much for your contribution. I would just ask a question of Tammi. I just want to touch base and understand a bit about how you ensure the most stringent standards of animal welfare on your farm.

**Tammi JONAS:** For us it is easy. We interact with our animals every day, and as somebody who is also a researcher I avidly read about things that might affect their welfare. We are quite informed by people like Temple Grandin's work, who I am sure you have heard about in the course of the inquiry. She changed the slaughter industry almost single-handedly through doing research about best practice at the preslaughter and slaughter process, and she has actually given us advice on our abattoir lairage design directly, because she is like that – she just helps the industry when she can. So I think it is a mixture of observation, interaction and then research to come back and make sure that we are always doing things at the highest standard that we can.

**Gaelle BROAD:** In your opening remarks you mentioned a submission, but you have not made a formal submission to this inquiry, have you?

**Tammi JONAS:** Yes, we have.

**Gaelle BROAD:** You have – have we received that?

**Bev McARTHUR:** It says no –

**Gaelle BROAD:** Okay, that is obviously a miscommunication. We will source your submission, thank you. Can you tell us a bit about your background – how long you have been farming and what got you started in it?

**Tammi JONAS:** Yes. We have been on this farm for 12½ years, farming pigs and cattle for all of that time. We came to it actually because we were concerned about how pigs and poultry in particular are treated in industrial livestock systems and we wanted to find out for ourselves whether in fact it was feasible and viable for a livelihood as farmers to raise animals differently. So we have been doing that here for those 12½ years and we make our entire livelihood from this farm, and we do it without having to compromise our standards of animal welfare at any stage, or our standards for the nutritiousness of the food or the fairness of how everybody who works here with us is treated. We take the whole system into consideration.

**Gaelle BROAD:** Can you tell us – you are in the process of starting an abattoir. What is that process like in Australia – because we have seen some close, but what is it like trying to open one in Victoria specifically?

**Tammi JONAS:** Ours is a very small abattoir. We are only going to process for ourselves and a few other local farmers. The planning process has been I would not say straightforward, but also the actual planning application while it was a bit slow was not nightmarish.

The nightmarish part came when it went to notice and review with the lifestyle neighbours. You hear a lot about the threats to farming being able to continue. An abattoir is considered – it is nested under rural industry in the scheme, but it is excluded. Rural industry does not require a permit except for abattoirs and sawmills, and so because of that we had to apply for the permit. Because of that it went to notice and review, and because of that several of the neighbours on the side of our road that is all small lifestyle blocks now – none of them are producing – objected. Council decided to grant the permit, and then they took it to VCAT. We just won at VCAT three weeks ago actually – three weeks ago today in fact. Now we have shifted from – we were going to build a not large but slightly bigger than we are now thinking facility to service up to about 15 local farms, and because of the 484-day delay from submitting an application to the VCAT decision, we have changed to a vehicle-based abattoir. So it is just going to be a container unit converted into a very small abattoir. In that time, though, I undertook my training for meat inspection so that we would be ready once the facility is built, and the actual conversion will not be very difficult. We would really love to see that become a model for other smallholders, because we used to have small-scale abattoirs across the country until not that long ago, and so a return of that would see, we think, a return of higher welfare, higher community accountability around how you are treating your animals on your farm and at the point of slaughter. So we are hoping this becomes a kind of blueprint for others to do similarly.

**Gaelle BROAD:** So do you participate in any – sorry –

**The ACTING CHAIR:** That is okay. Ask one more, and then I think we will go round again.

**Gaelle BROAD:** Okay, one question. Thank you. Do you participate in any audit programs?

**Tammi JONAS:** Yes. We have a licensed butcher shop on the farm already. We have been operating that for 10 years. We are licensed by PrimeSafe, and until the last six months we were audited four times a year because of that licence. From some recommendations to the review in 2015 they finally changed, and now we are audited twice a year. And once the abattoir is licensed, we will convert that to a whole processing licence. It will be a single licence under PrimeSafe.

**Gaelle BROAD:** Okay. Thank you, Chair.

**The ACTING CHAIR:** Thank you. We will do another round of questions now because we have a bit more time. Just one more from me: Professor O'Brien, I am interested in whether you have any observations around the conditions in more intensive food production environments and meat production environments particularly. Would you perceive that there is a difference in risk between outdoor low-stocking density farming and an intensive farming process regarding the spread of disease and the requirement for antibiotics, feeding into the problems you have identified?

**Claire O'BRIEN:** Absolutely. Hygiene is a big issue in those indoor environments where animals cannot move around, and obviously that is mitigated by the use of antibiotics in a lot of those systems. But you do get resistance developing towards common detergents and antiseptics by the bacteria in those spaces as well. Lack of space is an issue. We know that even stress that the animals encounter can have a huge impact on our microbiome and make your gut leakier. If you have distress, there is higher inflammation; you get endotoxin, which is a product of Gram-negative bacteria, translocating the gut walls, and therefore it is a welfare issue even down to the gut microbiome level. Air quality as well, if you are looking at trying to limit the transmission of viruses – all of my work has been on bacteria – can be an issue indoors. It is just common sense really. I mean, you would not need the antibiotics if they had a hygienic environment where they had room to separate the areas where they defecated from where they lie. There is increased transmission potential because the pigs are in closer proximity. They are touching each other more; they are walking in their own faeces. When they do get infections they need to be treated by more antibiotics et cetera.

I think the free-range model, if that is what you call it, is a lot better. The animals are not as stressed. The need for antibiotics would definitely decrease. I cannot see why you would need antibiotics. We do not need antibiotics, and we get around; I live on acreage, and I do not take antibiotics prophylactically or anything like that. We have learned a lot through this pandemic – hygiene, wash your hands. You might wash the environment and keep your space. It is all just common sense really. They do not need to be fed antibiotics in feed or prophylactically. Obviously antibiotics have their purpose, and that is to treat infections. But if the infections are being brought about by unhygienic practices because they are confined to small spaces where they are reduced to stepping in their own faeces then that transmission potential is high.

I think there is a big difference, but it is hard to be able to study these things. I would love to be able to look at the gut microbiome of pigs on a free-range farm compared to indoor, but I think a lot of people in industry are a bit resistant to those sorts of studies taking place. We need a diverse gut microbiome. You do not get that when you are on antibiotics, and you do not have that protection against the pathogens; they are then just transferring this dodgy microbiome to the piglets, and then they are more susceptible. It just seems like a never-ending cycle of infection. So yes, I think a free-range model would definitely be in the interests of pig welfare.

**The ACTING CHAIR:** Thank you. I just wanted to confirm as well: have you made a formal submission to the inquiry beyond your comments today?

**Claire O'BRIEN:** No, I have not. I am happy to if that is required or would be helpful.

**The ACTING CHAIR:** No, that is all right. I just wanted to check, given our earlier confusion. What I was going to ask, and you can perhaps just treat this as a question on notice, is if you would be willing to provide a link to your recently published study in *Frontiers in Microbiology*. If you would like to undertake to send that through to the committee, we can treat that as correspondence. That would be wonderful.

**Claire O'BRIEN:** Sure, can do.

**The ACTING CHAIR:** Wonderful. Great, thank you. We have time for one or two more questions each, I think. Mrs McArthur.

**Bev McARTHUR:** Claire, did I hear you right in saying you do not ever take antibiotics prophylactically?

**Claire O'BRIEN:** If I had a life-threatening infection I would take antibiotics, absolutely, and that is what they should be saved for.

**Bev McARTHUR:** That is exactly what we heard the industry tell us just in the presentation before last – that they are used absolutely sparingly for infections and with the strictest of protocols, not randomly given out at all.

**Claire O'BRIEN:** We do not know that. Where is the data? That is the problem.

**Bev McARTHUR:** So, we do not believe the –

**Claire O'BRIEN:** No, it is not that I do not –

**Bev McARTHUR:** array of veterinarians that presented that information. Their evidence is to be disregarded?

**Claire O'BRIEN:** No, no, not at all, but that data is not available for someone like me to look at. I do not know. I cannot be sure. If I want to get metadata for a study, that information is just not available to the public, and I do not know that that is what is happening across the industry because the industry does not tell us exactly what antibiotics they are using and in what circumstances. There is no strict rule saying that they cannot use them for prophylaxis or they cannot use them in feed. It is just they have taken an approach, it is my understanding, on a voluntary basis. A lot of producers, I am hearing, have decided not to use them in the feed or prophylactically, but we do not know that it is not happening because the data is not available. If veterinarians have sworn black-and-blue today that they only use them sparingly, then that is fantastic and it is absolutely wonderful to hear. I would just like to know that that is happening across 100 per cent of industry, and I guess the only way we can make sure of that is if it is a law, if that is the rule and it is not some voluntary process. But yes, I wish we had the data.

**The ACTING CHAIR:** Thank you.

**Bev McARTHUR:** Well, we learned they share all their evidence, all their research and all their work with all the international bodies, all the forums that are available for them –

**The ACTING CHAIR:** Mrs McArthur, I will –

**Bev McARTHUR:** to present their evidence, so, you know, I think it is widely available.

**The ACTING CHAIR:** in our remaining time see if Ms Broad has one more question for the witnesses.

**Gaëlle BROAD:** No. That is fine. Thank you, both.

**The ACTING CHAIR:** Thank you very much. I did just have one final one actually. I think you have spoken to it a little bit in your previous answers, Claire – and maybe I will leave this open for Tammi and Claire – specifically on the issue of preventing infection and reducing the amount of antibiotics needed. If antibiotic overuse is occurring, what are the alternative practices that we can use for disease prevention in pig farming and meat production?

**Tammi JONAS:** Could I have a quick stab at that as well? Again, I have got publications I can send through on this as well. I am sure you have heard through this inquiry about the existence of One Health, which is the UN's approach to dealing with the problems coming out of intensive livestock production, including AMR. One of the most important things we can do is have more biodiverse systems. We have narrowed the genetic base and that is creating further risks in the food system generally, but one of those is risk of disease transmission. If a pathogen finds a host and next door is a nearly identical host, then the transmission rate is

much higher. And, as Claire already said, if they are confined really close together in poor air quality with poor microbiomes, all of those things combined mean that we see the increase of disease spread and the increase of AMR. So moving animals further apart, looking for more genetic diversity, healthier production environments – that is how we are going to stop those kinds of disease risks.

**The ACTING CHAIR:** Thank you. Associate Professor, did you have anything you wanted to add?

**Claire O'BRIEN:** I do not have much more to add. Tammi has kind of said it all there. Giving them more space – and I honestly believe we do not need to use antibiotics if we are providing them with a free-range environment and space to move around. I do not think antibiotics have a place in the industry if we can do those things. But I think we just need to think about the systems a bit better as well. Piglets often get abrasions and things in these indoor environments, and there is a lot of mortality from infections from just a simple thing like the floor surface. Why aren't we looking at ground coverings that protect these piglets? I think we just need to stop and think about the systems a bit more and what is best for them rather than just continuing on with what the industry has always done. But yes, antibiotics – I do not think we need them unless they are absolutely needed.

**The ACTING CHAIR:** Thank you very much. A note to both of you: if there is further material that you would like to provide to the committee, you can just send that through to the secretariat. We will be glad to consider any further correspondence. Thank you very much for attending today and sharing your insights with the committee. That concludes the hearing.

**Committee adjourned.**