



Australian Government  
Department of Agriculture,  
Water and the Environment

## Response to Question on Notice

JOINT STANDING COMMITTEE ON FOREIGN AFFAIRS, DEFENCE AND TRADE

PFAS SUB-COMMITTEE

*Remediation of PFAS-related impacts ongoing scrutiny and review*

Department of Agriculture, Water and the Environment

### GENERAL COMMENTS

*On 24 February 2020 the Department of Health appeared before the Committee. Four Questions on Notice were raised; two were directed at Health and two were directed to the Department of Agriculture, Water and the Environment (DAWE). After the hearing, it was agreed (by the Committee Secretary and both Departments) that DAWE would answer the second question directed to Health, as it is essentially the same as Question 1 directed to DAWE.*

### SPECIFIC QUESTIONS ON NOTICE

#### Question #1

***Explain the Department's opinion on safe PFAS levels in cattle and consumption of meat***

*The Department of Health gave different advice on safe PFAS levels in cattle for meat consumption. What is the rationale behind the Department of Agriculture, Water and the Environment's advice and what is the research that supports that opinion?*

***Source: Proof Committee Hansard, 24 February 2020, p. 6***

**Senator FARUQI:** Coming back to this particular investigation, the Department of Primary Industries' advice, as I understand it, is that if cattle stay on land and are given clean water instead of contaminated water, PFAS levels would halve within 165 days. But this particular investigation found that that didn't change the level of PFAS found in the cattle that they looked at. You have not at all looked at what that investigation was. Are you concerned—

**Dr Lum:** I'm not privy to the details of that investigation.

**Senator FARUQI:** I think it would be good to have a look at that, since—

**Dr Lum:** I'm happy to look at it. I do know, though, that there is other work that's been done by some environmental scientists, particularly, I think, in Victoria, where they have backed up that finding that because cattle drink huge amounts of water and because they excrete so much water through their kidneys—and they are quite efficient at the excretion of PFAS through the kidneys compared to humans—the half-life of PFAS in cattle is vastly different to what it is in humans. So I'm not sure whether the study that was done that you're referring to is an outlier or whether there's anything peculiar in the sense of whether there was some other intake of PFAS chemicals. For example, if the water is not contaminated water, is there any groundwater that might be in the environment that might be contaminated—

**Senator FARUQI:** That's why I brought it up—because it does raise concerns for me. I don't know the ins and outs of the study, but I was thinking you would be perfect to look into that.

**Dr Lum:** We also know that if the cattle are fed grass clippings that have been brought in from elsewhere and have been watered with contaminated water, it's likely that that would be a source as well. Without knowing the details of the study—and I'm not a veterinarian—understanding the differences in physiology between cattle and humans would be something that I'd need to take advice on.

**Senator FARUQI:** This is on cattle, and this then goes to the consumption of meat. It conflicts with the advice of the Department of Primary Industries. I guess we can put that question to them as well, but it would be great if the task force could investigate it and let us know.

**Dr Lum:** I can certainly put it to the task force.

**CHAIR:** Senator, just for the sake of Hansard, when you referred to the Department of Primary Industries, do you mean the federal Department of Agriculture?

**Senator FARUQI:** Yes

## Response

*No assessment has been made, either in Australia or internationally, of 'safe PFAS levels in cattle'. In Australia, maximum levels for contaminants are set by Food Standards Australia New Zealand, (FSANZ) when they are required, to manage dietary exposure to chemical contaminants through food. FSANZ investigations to-date suggest dietary exposure to three types of PFAS chemical contaminants of concern (PFOS, PFOA and PFHxS) through the general food supply in Australia is likely to be low. No maximum limits have been set for PFAS in food by Australian or other national regulators.*

*FSANZ has developed non-regulatory 'trigger points' for livestock products including meat, offal and milk, as well as seafood, fruits and vegetables. The trigger points may be used by*

*government authorities to identify whether further investigation of production areas may be required if PFAS are detected in analysed foods. Trigger values are an analytical tool and do not constitute 'safe levels'.*

*The Hansard transcript indicates that Question 1 is also about a 9News article that claimed that the Department of Primary Industries (NSW) gave the wrong advice to farmers living on PFAS-contaminated land.*

*The 9News article alleged that the Department of Primary Industries (NSW) advised a cattle breeder living on PFAS-contaminated land that:*

*"if cattle stay on the land and are given clean town water instead of contaminated ground water, PFAS levels would half within 165 days."*

*However, the Department of Primary Industries (NSW) has confirmed their full advice to the farmer stated that by "providing an alternate water supply not affected by PFAS **and** restricting stock access to waterways", the cattle's exposure to PFAS should reduce. This advice is based on peer-reviewed scientific studies that show that PFAS levels in cattle reduce when the animal is no longer exposed to PFAS.*

*The Department of Agriculture, Water and the Environment and the Australian Government Department of Health do not issue advice to local producers, as this is the responsibility of State and Territory authorities.*

## **Question #2**

***Explain the disparity between guidance on consumption of PFAS contaminated water by cattle and pets in Australia and overseas***

*In the US and Europe it is recommended that water consumed by cattle and pets should meet human PFAS water safety standards. Set out the Department's guidance on this and explain why it different to advice given overseas.*

***Source: Proof Committee Hansard, 24 February 2020, p. 6 7.***

**Senator FARUQI:** Yes, and ask some questions. There's one state I know of in the US, Michigan I think it is, which has a lot of PFAS contamination issues. They have, for example, recommended that the water that pets and livestock drink meets the same safety standard as that for humans. Is that something that you have looked at or anyone here has looked at?

**Dr Lum:** I'm not aware of anybody in Australia looking at pets—

**Senator FARUQI:** And also livestock.

**Dr Lum:** The advice that I've heard has been that if livestock are being watered with contaminated water then to try to avoid it, if that's at all possible, but that the dilution

effect of selling livestock into an open market should be sufficient to reduce the exposure to PFAS chemicals to below a tolerable daily intake level.

**Senator FARUQI:** My question is: why haven't they done that? Why is our advice different to what's happening in Michigan?

**Dr Lum:** I think when we look at the differences between what's happening in Australia, what's happening in the United States and what's happening in Europe, the one thing to remember is that when it comes to something numerical that you can measure then almost all of the advice is usually within one or two orders of magnitude. On the face of it that sounds like a lot but with water, for example, we're talking about 70 nanograms per litre—that's 70 parts per trillion; that's 70c in \$10 billion, or something like that—so they're very, very small numbers. While there are subtle differences between all of the advice from around the world, they're usually all pretty similar and comparable. The other important reason—

**Senator FARUQI:** Sorry, but it is quite different if they are recommending that pets and livestock use the same water that humans drink. We are not recommending that, so it's quite different advice. I guess they're taking more of a precautionary approach than we are.

**Dr Lum:** I don't know that I'd say that they're more precautionary than we are. I think the advice that we've got about the livestock is that if there is contaminated water, the dilution effect will reduce the intake for humans below the tolerable daily intake.

**Senator FARUQI:** And that's my question: why are we using different advice to what they are saying?

**Dr Lum:** Because the assessments for human safety found that the tolerable daily intakes that were calculated by Australian experts were safe—noting that the uncertainty factors and the safety margins that are added in make any of the values provided here or overseas very, very safe.

**CHAIR:** Is that a question perhaps you'd like to direct the Department of Agriculture as well?

**Senator FARUQI:** Yes, that's a good idea...

## Response

*Australia sets non-regulatory guideline levels for some PFAS in [human] drinking water. These guideline levels are calculated from the health based guidance values (expressed as a Tolerable Daily Intake - TDI) set by Food Standards Australia New Zealand (FSANZ). Health based guidance values indicate the amount of a chemical in food or drinking water that a person can consume on a regular basis over a lifetime without any significant risk to health. The drinking water guideline values are used by Commonwealth agencies and other*

*organisations that conduct PFAS site investigations to assess human health risk. The drinking water guideline levels for PFAS in Australia are similar to the drinking water guideline levels developed by the US EPA and several European States.*

*In Australia there are currently no guideline levels for PFAS in drinking water for cattle or pets. To the best of our knowledge, there are also no guideline levels for PFAS in drinking water for cattle or pets in the US or Europe. Some US States (e.g. Michigan) recommend that pet owners living near PFAS-contaminated sites provide their pets with the same water that they drink. However, this is not regulatory advice and is not based on the scientific methodologies that are used to derive the guideline values for humans.*