

Bill C-275, An Act to amend the Health of Animals Act (Biosecurity on Farms)

Speaker: Dr. Amy Greer, BSc, MSc, PhD

I am submitting this document in response to the final question that I was asked during my testimony on September 24, 2024, for which there was not sufficient time to respond to the Senator. My interpretation of the question was that the Senator was interested in knowing my thoughts on the perceived and actual risk that a trespasser represents for external biosecurity (based on my original testimony).

From a biosecurity perspective, let's first think about a single Canadian farm with 2 different people entering the farm. One person follows the required farm biosecurity protocol before entering the barn and having contact with animals (this might include, signing into the facility, entering the facility using a signed entrance, removing outdoor footwear, showering, putting on clean, facility provided coveralls, and boots, and washing hands all before entering the facility). It is also important to remember that even when engaging in biosecurity measures, the risk of a disease introduction is not zero. Biosecurity acts to reduce the risk to as close to zero as possible but there are many factors that play a role, and the risk is never zero.

We will assume that the second person does not follow any of the protocols and just enters the facility having taken none of the precautions taken by the first person. While there are many factors that influence overall risk, it would be the case that there is a higher risk of introducing a pathogen via the second person (who engaged in no biosecurity) compared to the person who followed the required biosecurity protocols. This risk does not change with the "status" of the individuals (trespasser vs. non-trespasser) entering the barn.

Now, if we assume that a trespasser (or someone on the property without permission) is never going to engage in the required biosecurity that is in place for the facility, this means that the trespassers would represent an increased biosecurity risk for this specific farm. This example would make the perceived risk and actual risk of trespassers resulting in a biosecurity breach high (relative to individuals coming onto the farm who were employees or service workers) for this specific farm.

However, we also must consider the frequency with which these events occur because that is the second component of the overall risk at a national level that we need to consider.

To get a sense, the number of reported farms in Canada in 2021 that were engaged in animal production (these do not capture other and miscellaneous farms) is 76,796¹. There does not appear to be any easy way to obtain public data on the number of documented trespassing events that occur on Canadian farms, but my assumption is that these events are relatively rare in the context of the overall number of farms in Canada. Let's also assume that trespass events are single day occurrences on a single Canadian premise.

If we ignore the required biosecurity protocols, and just focus on the overall number of Canadian farm trespass events over a given year, the number of possible disease incursions from trespassing is likely significantly less than the number of possible incursions from employees

and/or service providers based on the sheer number of farm contacts over a 12-month period. Employees/service providers have many more contacts with an individual premise than trespassers over the period. Biosecurity measures that are in place for employees and service providers are in place to help to offset the risk presented by the sheer magnitude of the increased number of “contacts”.

So, the actual risk of a disease introduction is a function of both the probability of transmission given a contact (which will vary depending on the pathogen and many other factors including what biosecurity measures are in place) and the overall number of contacts that occur. Biosecurity works to reduce the probability of transmission in the face of the number of necessary contacts.

Taken together, in my opinion, the increased risk of possible disease transmission as a result of taking zero biosecurity measures (as is the assumption for trespassers) is likely offset to some degree by the assumption that (at this time), the number of trespass events of this type on the almost 80,000 Canadian farms are low. So, while the risk exists, in the grand scheme of overall national biosecurity within a single year focused on individual farm level introductions, the risk is quite low because trespass events are likely rare events. The risk is higher than zero but also not highly probable.

¹ <https://agriculture.canada.ca/en/sector/overview#>