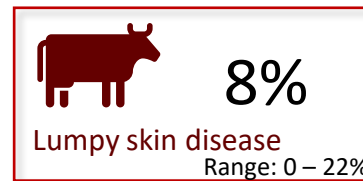# What is the probability of an internationally-notifiable incursion in the next five years?

A rapid structured expert judgement (SEJ) session was facilitated by the Centre of Excellence for Biosecurity Risk Analysis on 15 March 2021 to provide an indication of the probability of an internationally-notifiable incursion of specific diseases in Australia in the next 5 years. SEJ is an internationally-recognised process that has been used to obtain data on a range of complex uncertain systems. It provides a systematic approach that minimises individual and group cognitive biases, surfaces assumptions, and contextualises outcomes.

The exercise involved a robust 2 hour discussion, with individual participants making private optimistic, pessimistic and 'most likely' projections of the probabilities, which were later aggregated.

The results of this single rapid exercise and estimated probabilities should be interpreted and used with caution. There was disagreement amongst the 16 participants, which is expected and an important part of the process. Limitations of the exercise included the low diversity of the participant group, the rapidity of the exercise and the level of uncertainty expressed during the session.

21% African swine fever
Range: 5 – 39%

13% African horse sickness
Range: 1 – 31%

9% Foot-and-mouth disease
Range: 1 – 19%

8% Lumpy skin disease
Range: 0 – 22%

Estimates from the exercise suggest that there could be a **42% probability** of an internationally-notifiable incursion of any one of these significant exotic diseases in Australia in the next 5 years

These figures present an interesting indication of participants' thoughts. Key takeaways from the exercise included:

There was general concern about the potential threats that these animal diseases could pose to Australia in the near future. The probability of an incursion should also be considered in concert with its consequences – all these diseases are associated with significant impacts.

There was uncertainty and divergence of opinion about the likelihood of an incursion. This reflects factors such as knowledge gaps about the diseases and their epidemiology; as well as the volatile wider context (e.g. the impact of COVID-19 on future trade/travel). An increasingly dynamic biosecurity landscape could be anticipated.

What could be currently working in our favour?

- Well-established risk-based policies for imported goods
- Compliance interventions and enforcement activities
- Use of new approaches and technologies at the Australian border
- Biosecurity awareness campaigns; ↑biosecurity knowledge
- History of maintaining favourable animal disease status
- Historical investments in biosecurity in Australia (government; industry)
- ↑on-farm biosecurity
- (Some) regional OIE workshops on emerging disease threats

What could be working against our interests?

- ↑virus circulating in region (with implications for spread via travellers/workers, goods and/or arthropods)
- Regional instability & dynamic geopolitics
- Changing market demands and/or ↑importance of less/non-regulated risk pathways*
- Illegal practices – e.g. deliberate (product substitution), or malicious acts (bioterrorism)
- Biologically challenging disease agents to control
- COVID-19 impacts on regional biosecurity resourcing, including disease detection, reporting and controls
- Biosecurity complacency / fatigue
- Regional infrastructure investment – ↑trade and biosecurity risk activities

+ Uncertainty

Disease factors – e.g. unknown vector competence for some diseases

Contextual factors – e.g. future passenger travel & trade pathways

* This includes online shopping; vector-associated spread for some disease agents (and possible windborne spread and/or hitchhiker arthropods); changing demographics and consumer/market preferences in Australia and the region, and shifting protein demands.