



## The global spread of livestock diseases

- their impact on trade, market access and food security

**Mark Schipp** 

#### **Animal diseases matter**

- Why do we keep livestock?
- ✓ Subsistence farming
- √ Commercial agriculture
- ✓ Draught power
- ✓ Meat, milk and fibre
- ✓ Hides and skins
- ✓ Savings

- In the event of animal disease
- XAnimal health and productivity
- X Breeding capability
- X Welfare
- X Loss of livelihood
- X Loss of trade and market access
- X Poverty and food insecurity
- X Human disease
- X Environmental impacts





## Rinderpest changed history

- Introduced from Asia to Europe and from Europe to Africa
- 95% of cattle were lost in Ethiopia bringing famine and disease, almost a third of the human population perished
- First veterinary school in France 1761
- Establishment of WOAH/OIE in 1924
- Global Rinderpest Eradication Program established 1994
- Eradication achieved in 2011







## Transboundary animal diseases

- FAO definition: "Those diseases with an essential impact on the economy, trade and/or food security of a group of countries, which can be easily spread to other countries, reaching epidemic proportions and that require control and eradication cooperation between different nations."
- TADs are highly contagious or transmissible, epidemic diseases, with the
  potential to spread rapidly across the globe and the potential to cause
  substantial socioeconomic and public health consequences.



## Pathways of disease

- Live animal movement
  - Informal/illegal
  - Formal/legal
  - Wildlife migration
- Contaminated products
  - Food waste
  - Animal feed
  - Biological products

- Vectors and environment
  - Insect vectors
  - Wind currents
  - Contaminated soil/water

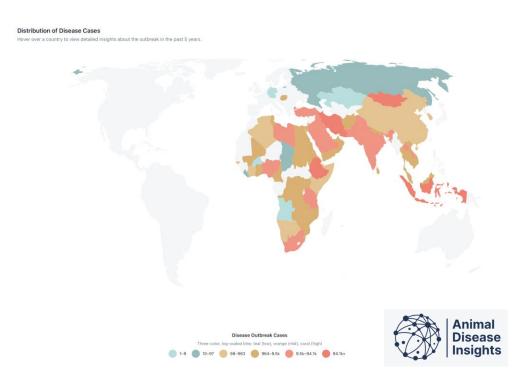
- Other sources
  - Laboratory accidents
  - Sabotage/warfare





## Major disease threats today: FMD

- Asia, Africa and Middle East
- (South America)
- Indonesia in May 2022
- Trade disease







## Major disease threats today: AHS

Distribution of Disease Cases

Hover over a country to view detailed insights about the outbreak in the past 5 years

- Vector (midge) borne
- Introduced to Thailand through zebra import







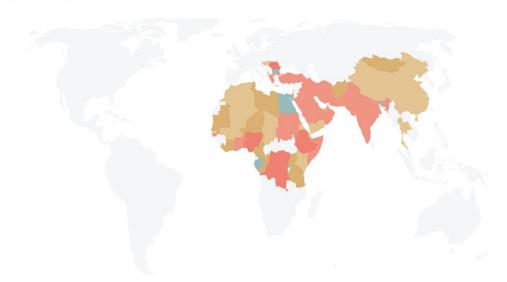




## Major disease threats today: PPR

- Sheep and goats
- Similar to rinderpest





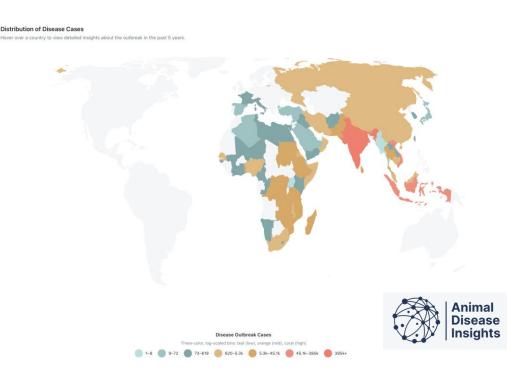






#### Major disease threats today: LSD

- Current outbreak in Europe
- Indonesia in 2022
- Stable flies and mosquito vectors
- Spread between countries by animal movement and vector movement

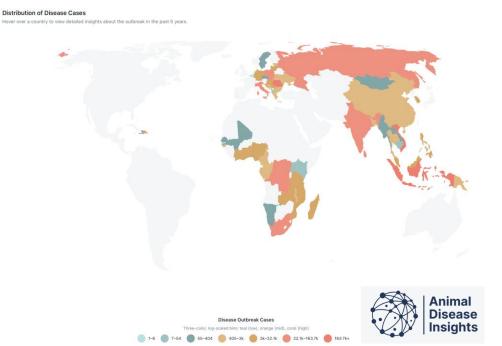






## Major disease threats today: ASF

- Highly contagious and fatal disease of pigs
- Caribbean
- Indonesia and Timor Leste 2019
- Papua New Guinea 2020
- Taiwan Oct 2025







## Australia's multi-layered defence

- Pre-border
  - ✓ Support regional disease control programs
  - ✓ Vaccine banks for FMD and LSD.
  - ✓ Building partner capability
- Border
  - ✓ Passenger declarations and screening
  - ✓ Import risk assessments and permits
  - ✓ Detection of illegal food imports
- Post-border
  - ✓ Northern Australia Quarantine Strategy
  - ✓ National surveillance in saleyards, registered premises, abattoirs, farms
  - ✓ Agreed emergency response plans (AUSVETPLAN)





## Reflections and implications

- The entry of FMD or LSD into Australia would be a disaster
- Delays in detection or reporting have serious consequences
- Surveillance is important
- Immediate suspension of export certificates
- Maintaining Australian biosecurity defenses is of paramount importance
- Australia is playing a valuable role regionally and globally



#### Take home messages: 1

- Australia is not immune from disease incursions, so:
  - ✓ Build trust through transparency and cooperation
  - ✓ Strengthen biosecurity nationally and on farm
  - ✓ Understand what will happen in the event of a disease incursion, particularly for livestock in transit
  - ✓ Think about restricted market access based on disease free zones or vaccination



### Take home messages: 2

- We should be investing in:
  - ? Disease surveillance onshore and offshore
  - ? Vaccine technology and supporting regulatory systems
  - ? Rapid, reliable and shelf stable diagnostics
  - ? Basic research: mechanisms of disease transmission, insect vectors



### Take home messages: 3

- We should be advocating for:
  - ✓ Strong national biosecurity arrangements
  - ✓ Industry participation in preparedness and response arrangements
  - ✓ Enhanced veterinary presence in rural and regional Australia



# Thank you

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