Present and future challenges for maintaining FMD free areas without vaccination

Wilna Vosloo | 24/04/2024

History – FMD in Australia

- Last outbreak reported in 1872
  - May 2: ‘Squatters’ buy newly imported cattle from England, Achmet the bull is walked from Melbourne to the farm
  - May 3: Overnight on the way at stables
  - May 4: Overnight on another property
  - May 5: Arrive at destination, Achmet shows clinical sings
  - May 9: In contact cows start showing signs of FMD

History – FMD in Australia

- May 12: Many cows sick, one bull moved to a neighbouring farm
- May 16: In contact cows on neighbouring farm start showing FMD
- June 6: Voluntary quarantine
- June 11: Victorian Government extends legislation to include FMD
- June 12: Stamping out commences
- June 17: Stamping out complete


English squatters in Australia and their shanty.

Important points

- How did Achmet become infected?
  - He left England 4 months before showing clinical signs
  - All other cattle that were offloaded remained healthy
  - Nothing else was offloaded at the time
- Theory on source of infection
  - Extensive outbreaks of FMD in UK during 1869-73
  - Carriers don’t develop clinical FMD
  - Stayed overnight in stables, likely in horse stalls
  - Hay from packing crates used as bedding

Why did FMD not become endemic?

- Quick response
  - Quarantine
  - Legislation changes to allow legal management of outbreak
- People with prior knowledge of FMD
- Very little animal movements off farms
- Luck?

- Resulted in changes to quarantine regulations

History of FMD in South America

- Introduced into USA, Argentina and Uruguay in 1870
- Brazil's first case was in 1895 (Uberaba, Minas Gerais)
- Peru and Bolivia 1910
- Chile 1920
- Venezuela, Colombia and Ecuador in the 1950s

Why did FMD become endemic

- South America consists of many countries
- Multiple introductions
- Lack of veterinary and suitable legal structures at the time
- Extensive animal movement during colonisation

Challenges for FMD free countries/zones

- Maintaining movement control between zones
  - Traceability
  - Inspection / border posts
- Loss of political and industry interest
  - Funding decline to support control options
- Decline in awareness
  - Veterinary personnel and farmers unfamiliar with clinical signs
  - Updating contingency plans

Challenges continued

- Naïve, fully susceptible animal population
  - Obvious clinical signs
- Globalisation and increased trade
- Political instability
- Agro-terrorism
  - New Zealand 2005 – ransom letter vial of FMD released on Waiheke Island
  - Cost in excess of NZ$2 million not including costs to farmers for mustering stock and quarantine impacts
  - Highlighted administrative shortcomings in industries

Laboratory capacity

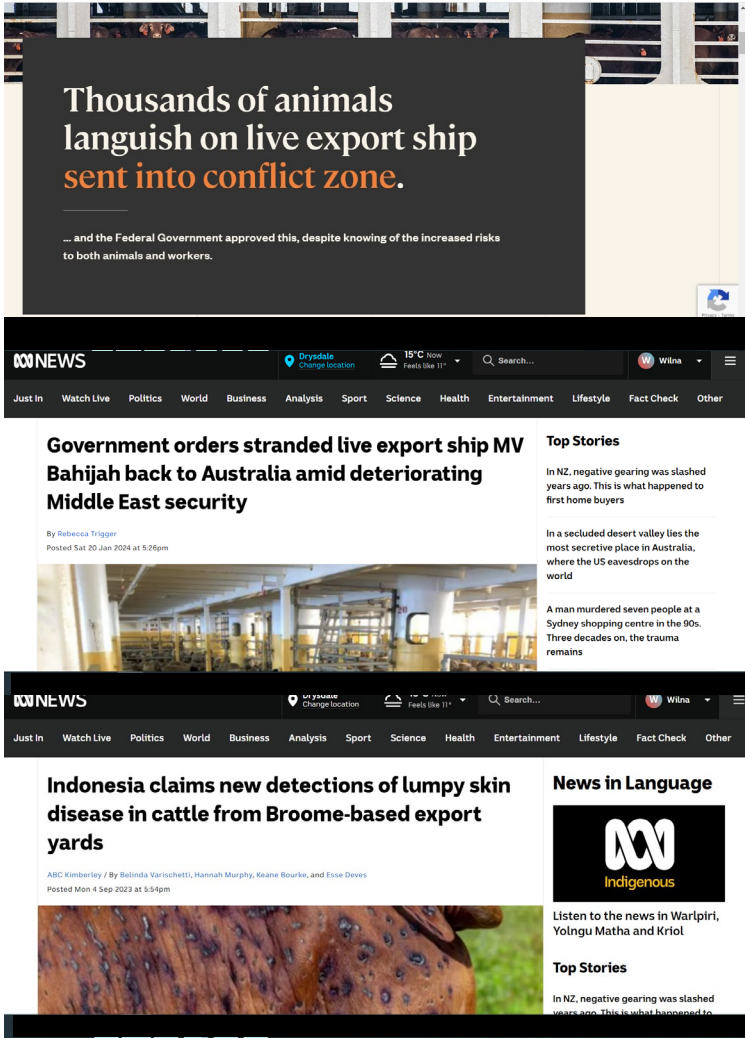
- Maintaining laboratory capacity and need for costly high containment facilities
  - Australia is not allowed to keep live FMDV – risk of virus escape
  - Challenges to validate tests and perform research
  - Costs to collaborate overseas
  - Challenges to obtain research funding locally

Vaccine banks

- Agreements with providers (VCAC)
  - Lifespan of bank and replacement agreements
  - Formulation stipulations (antigen load, adjuvant, speed of formulation and delivery)
  - Number of doses required (modelling)
- Import permits and emergency registration requirements
- Governance decisions between industries and state governments
  - Funding agreements
  - Agreements on distribution during outbreaks
- Choice of strains to include (VEAG)
  - Identify the highest risks of introduction (imports, packages, arrivals)
  - PRAGMATIST tool developed by EUFMD
- Distribution and equipment

Live exports

- Changes in trade requirements for animal products
- Live exports and ethical / welfare challenges
  - Vessels leaving Australian borders and then returning
- Disputes over infection
  - Australian cattle developing disease in receiving country



Rapidly changing epidemiological situations

- Recent changes for Australia
  - ASF introduced into Indonesia (2019) and Papua New Guinea (2020)
  - FMD introduced into Indonesia after nearly 40 years of freedom (May 2022)
  - LSD introduced into Indonesia (March 2022)
  - JE in Australia (2023)

Southwards movement of ASF

Summary

- Obtaining disease free status is only the start – many challenges remain
  - Cross collaboration between government departments is crucial
  - Continued involvement of industry and other stakeholders
  - Training and awareness
  - More challenging to motivate for continued funding

Thank you

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