

# Australia's success story on elimination of bovine brucellosis and how it maintains freedom from *Brucella abortus* in susceptible animals

Australia

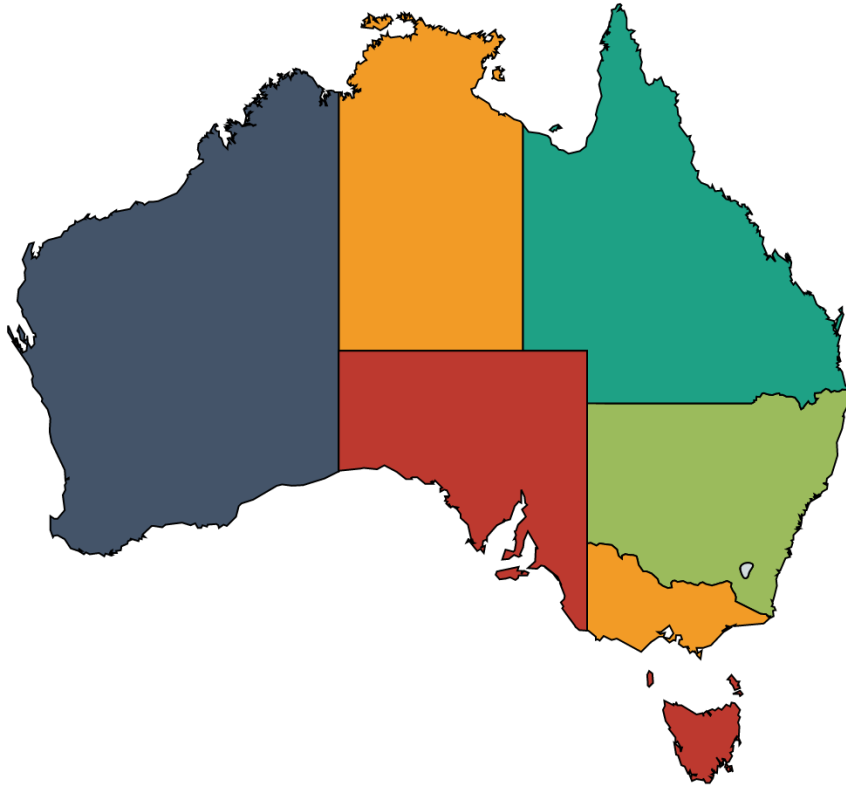
Dr Ron Glanville

Former Chief Veterinary Officer, Queensland

WOAH Regional Training Workshop on Brucellosis Diagnosis  
Beijing, China P.R., 5 – 8 August 2025

4th International Academic Conference on Brucellosis  
(5 August)





# BTEC



**B**rucellosis and  
**T**uberculosis  
**E**radication  
**C**ampaign

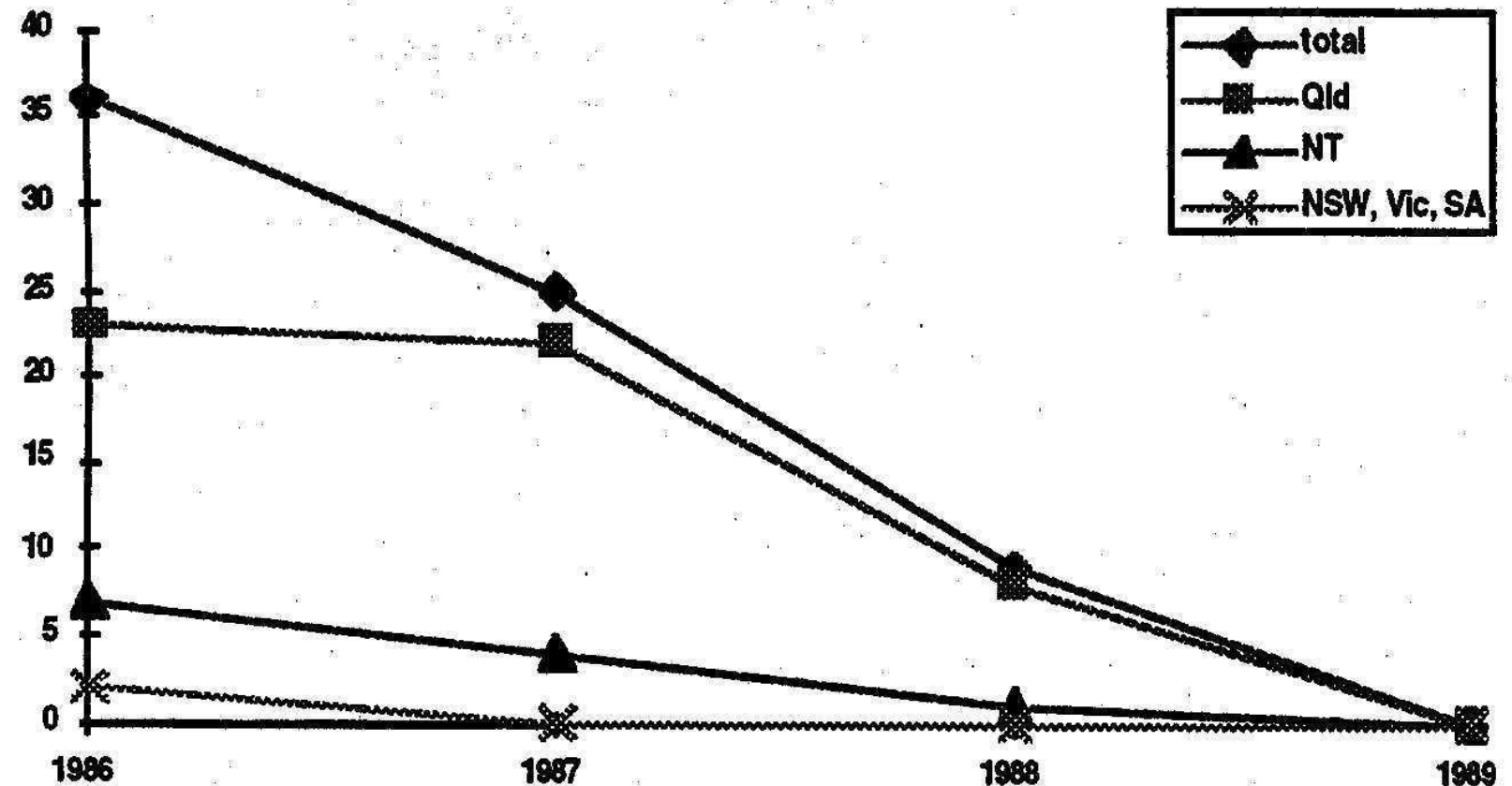


**THEY SAID IT COULDN'T BE  
DONE!**

**(Brucellosis)**

**Australia declared  
Free July 1989**

**Figure 4. Numbers of brucellosis-infected properties (figures at 30 June each year)**

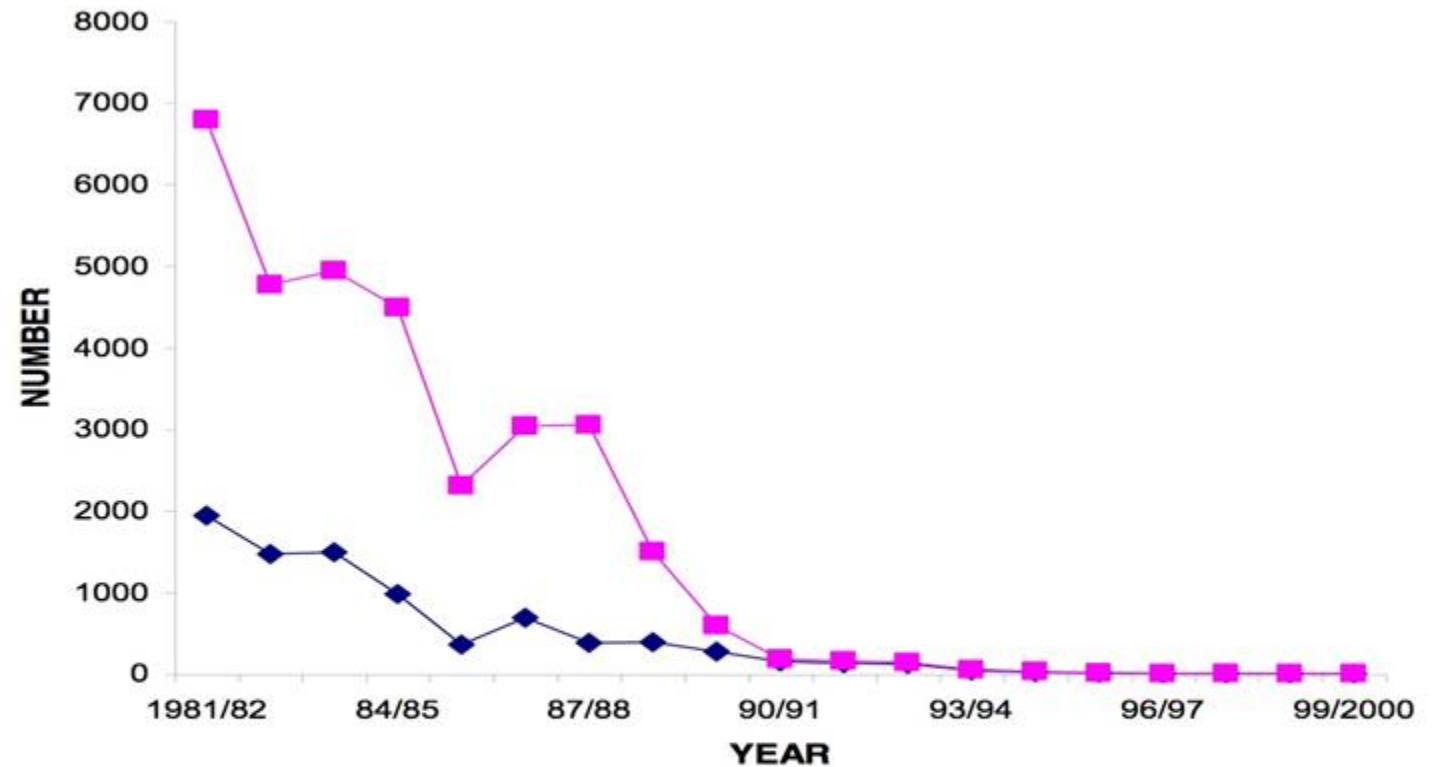




# THEY SAID IT COULDN'T BE DONE!

## (Tuberculosis)

### Australia declared Free December 1997



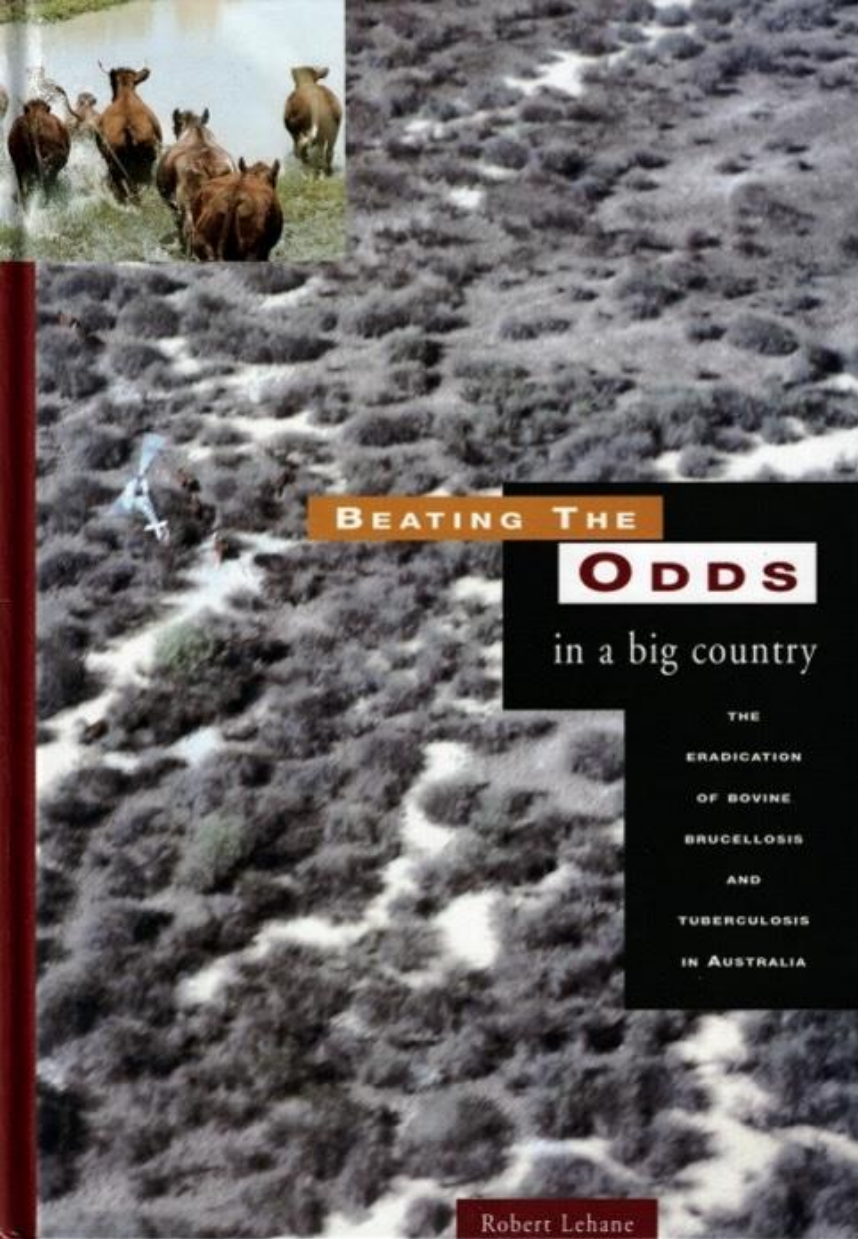
Source: Roberts et al (1998)

**Figure 2** TB-infected cattle in Australia (1981–2000), as detected by abattoir monitoring (■) and field testing (◆)







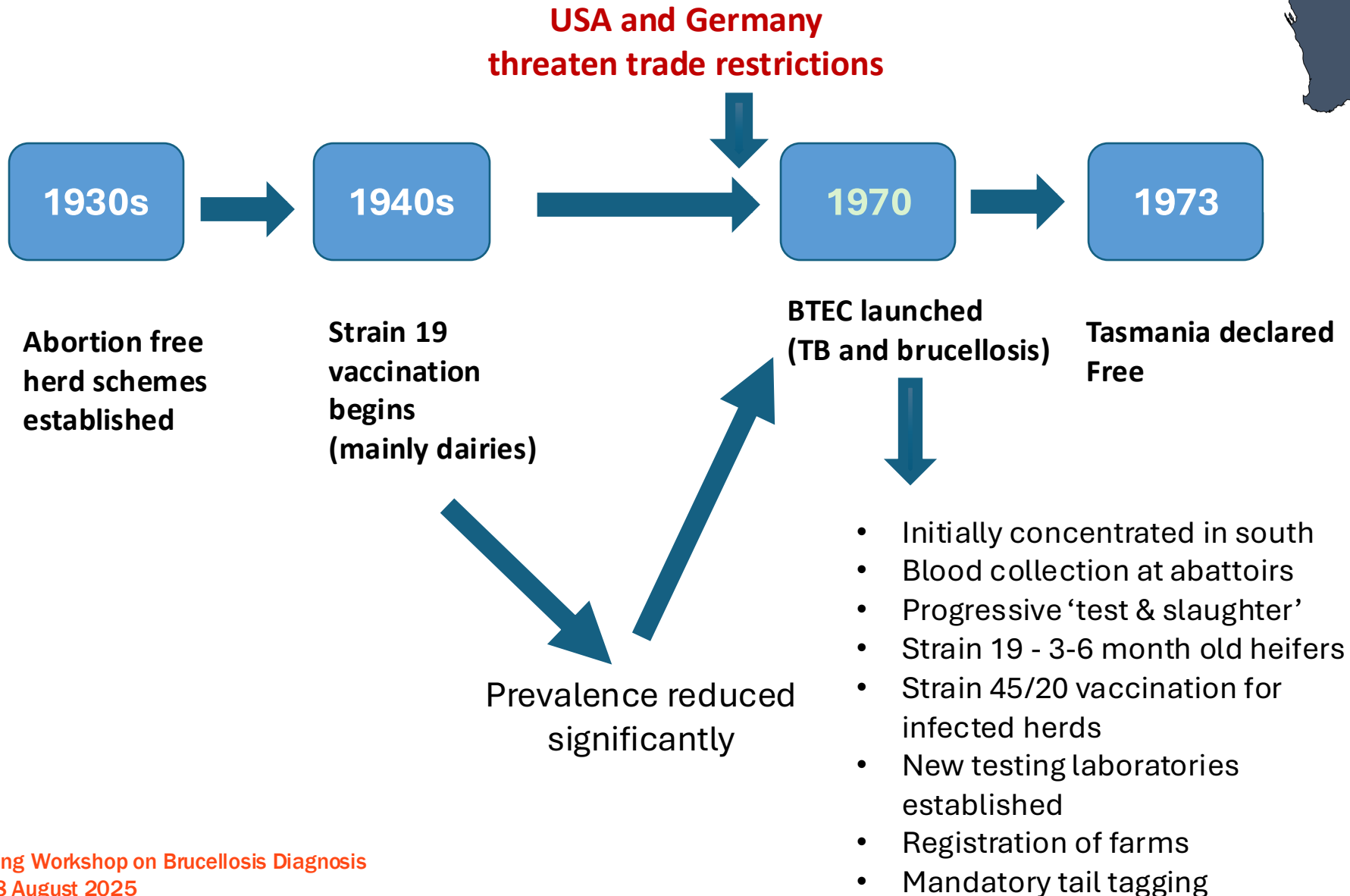


**BTEC Expenditure  
~ \$1 Billion Aud**

**\$3 Billion in today's  
money**



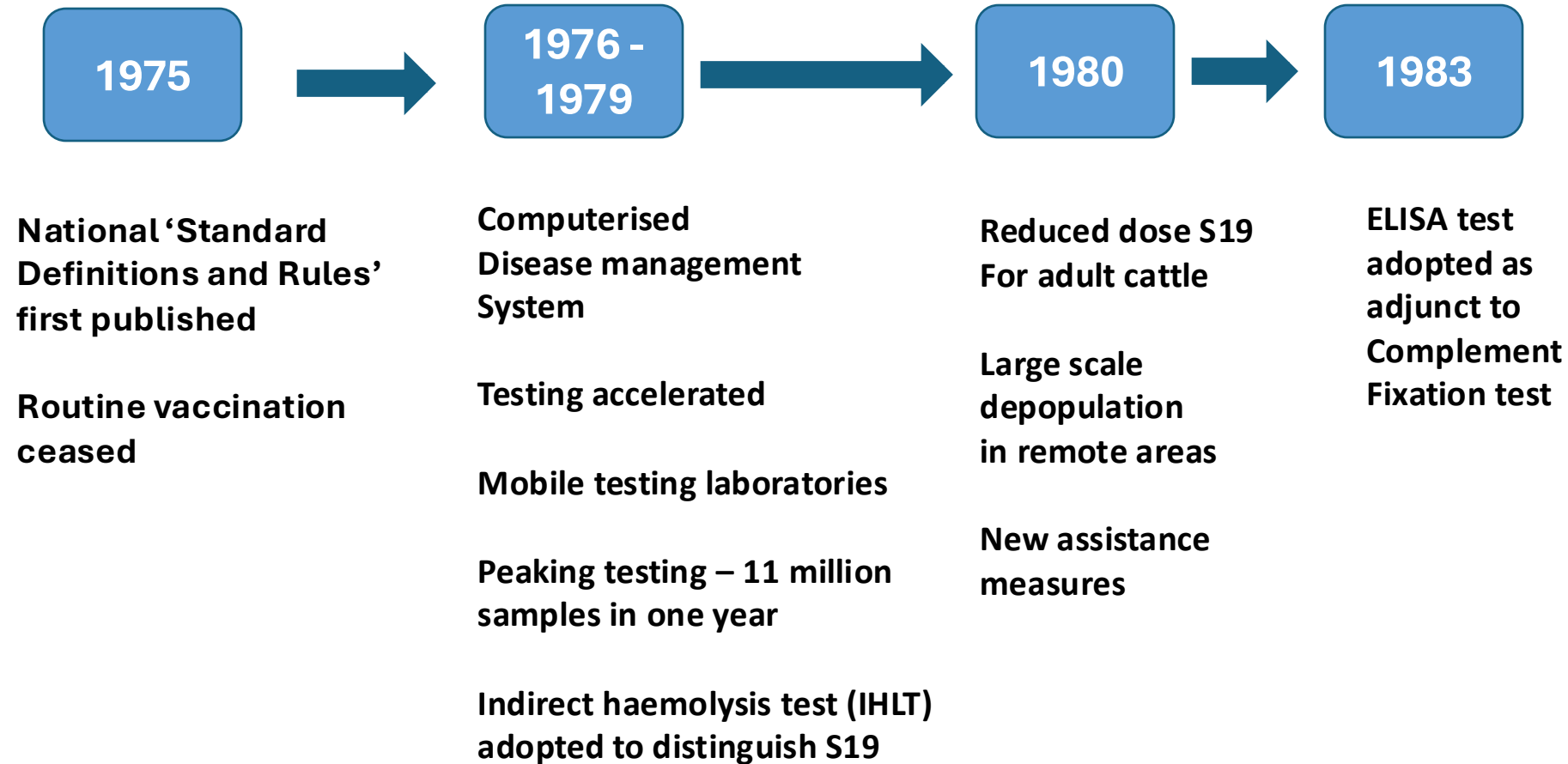
# Brucellosis Eradication Timeline





# Brucellosis Eradication Timeline

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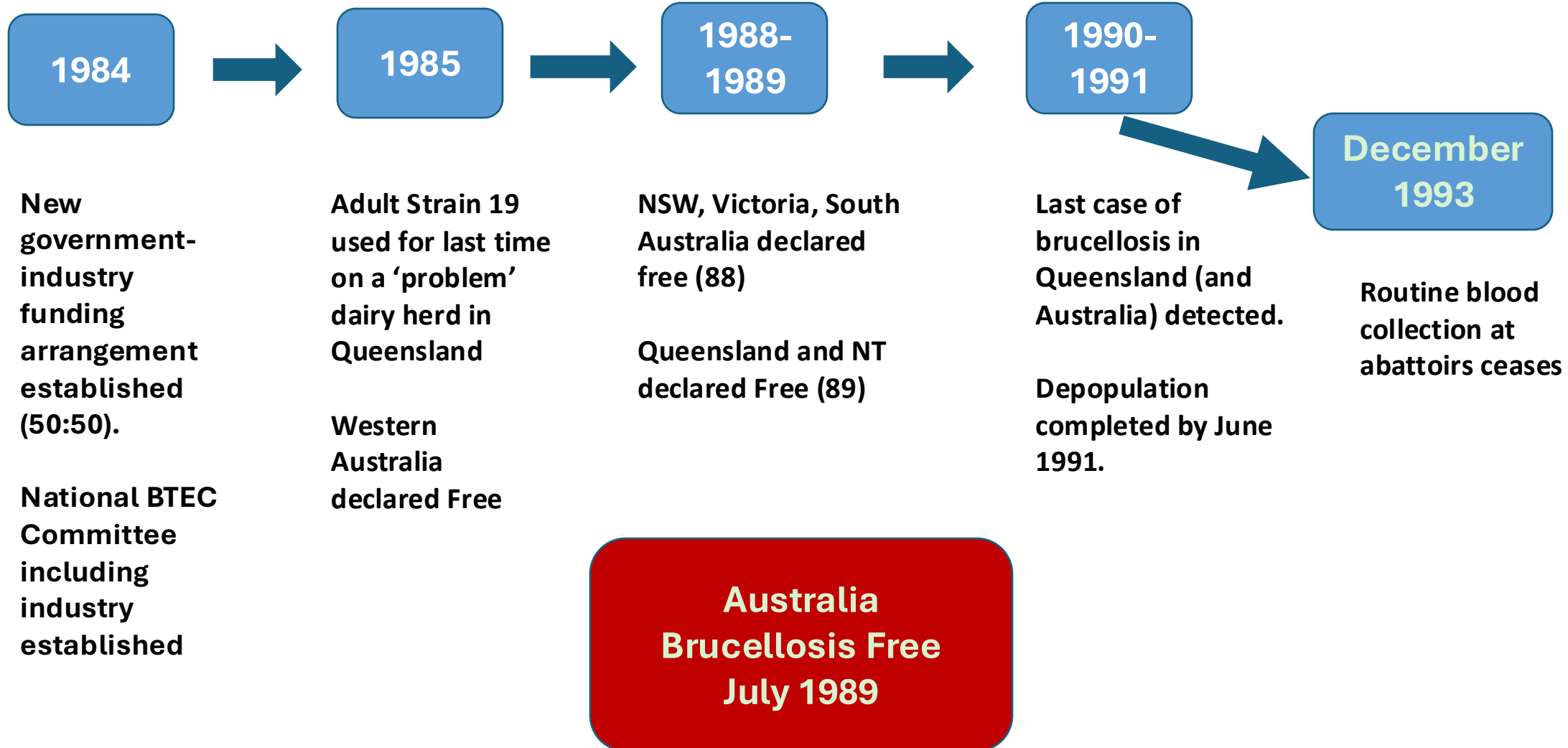




# Brucellosis Eradication Timeline

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**False positives caused by *B. suis* crossover from feral pigs routinely investigated.**





# Brucellosis Eradication Success Factors

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Industry & Government  
Commitment



Funding &  
Cost Sharing



Program  
Management



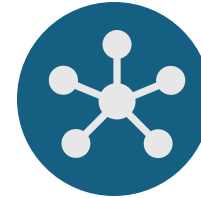
Agreed Technical  
Standards



Legal Backing



Abattoir  
Surveillance



Tracing



Strict Controls

- ✓ Testing
- ✓ Movement controls based on status
- ✓ Targeted depopulation (residual infection)
- ✓ Compensation and subsidies for affected farmers

Department of Primary Industry  
Bureau of Rural Science



National Bovine Brucellosis and  
Tuberculosis Eradication Campaign  
Standard Definitions and Rules

VOLUME ONE

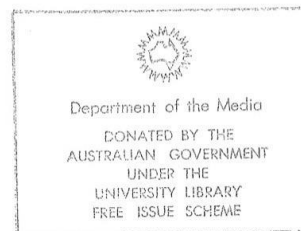
Approved by the Standing Committee on Agriculture  
1986

Australian Government Publishing Service  
Canberra 1986

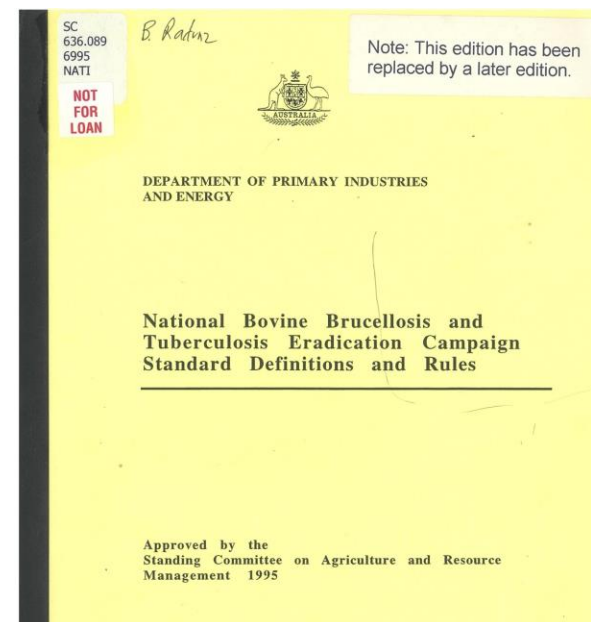
AUSTRALIAN BUREAU OF ANIMAL HEALTH  
Standing Committee on Agriculture  
Animal Health Committee

## BOVINE BRUCELLOSIS AND TUBERCULOSIS NATIONAL ERADICATION CAMPAIGN

### STANDARD DEFINITIONS AND RULES



AUSTRALIAN GOVERNMENT PUBLISHING SERVICE  
CANBERRA 1975







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- Strain 19 for calves 3-6 month
- Reduced dose (1:400) S 19 for adults in problem herds
- Strain 45/20 for infected herds.
- Strain 45/20 for anamnestic testing in some herds.

**Phased out from 1975 to allow for test & slaughter.**



- Abattoir monitoring – blood collected & tested from all breeding animals slaughtered
- Milk ring testing of dairy herds
- Field testing – this was ramped up as the program progressed, with special purpose field teams appointed.

Complement Fixation (CF) test primarily used.

Supported by:

- Rose Bengal test
- IHLT
- ELISA



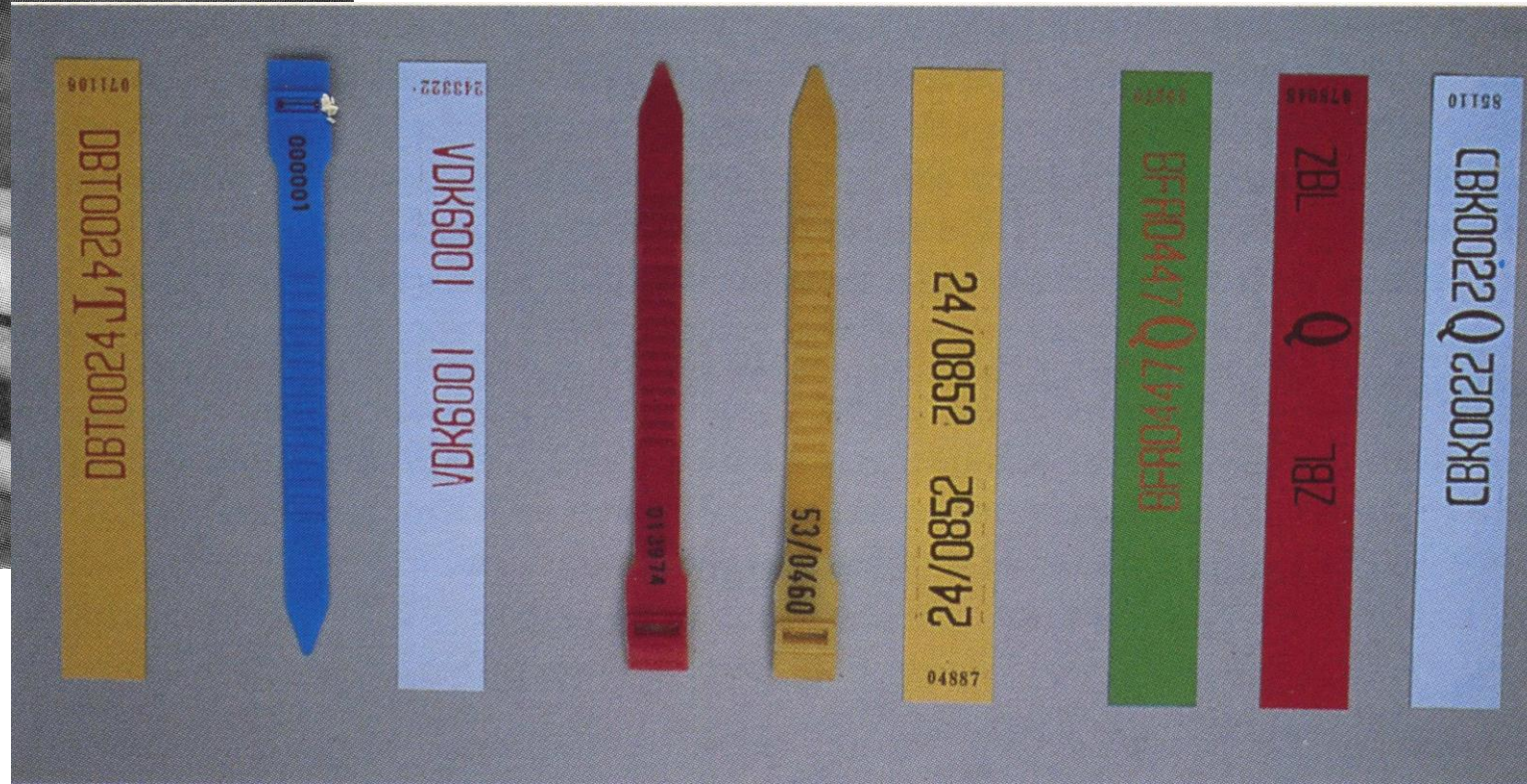








# Livestock Identification: Tail tagging

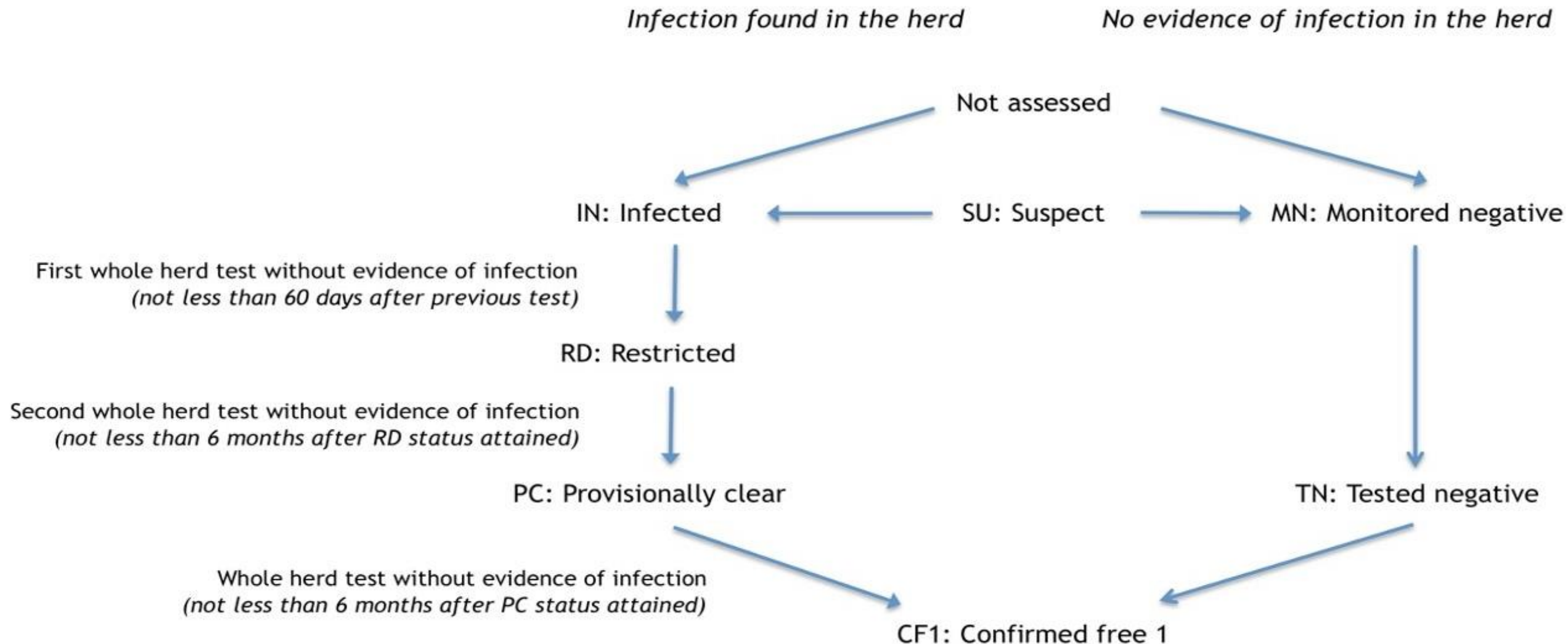






# Brucellosis Herd Status Progression

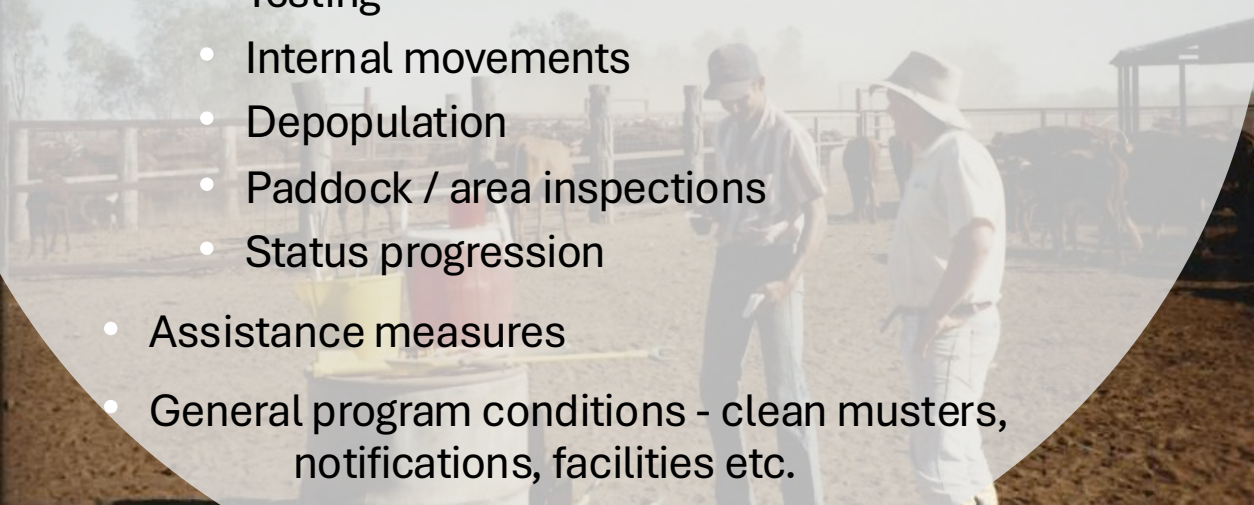
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# Approved Property Program

- Property Details & Disease History
  - Program Summary & Problems Anticipated
  - Program Details By Group, including:
    - Identification
    - Testing
    - Internal movements
    - Depopulation
    - Paddock / area inspections
    - Status progression
  - Assistance measures
  - General program conditions - clean musters, notifications, facilities etc.
- 





The Standard Rules and Definitions specified the animal movements allowed – determined by herd and area status.

Rules complex, but most importantly:

**For Bulls & entire females from, Suspect, Infected, Restricted and Provisionally Clear herds - no movement between farms allowed.**

**This provided a huge incentive for cattle owners to eradicate the disease.**



A photograph of three men in a rural, arid landscape. They are wearing light-colored, short-sleeved button-down shirts and light-colored trousers. Two of the men are wearing wide-brimmed hats. The man in the center is wearing sunglasses and has his hands on his hips. They are standing in front of a wooden fence. A large, semi-transparent circular graphic is overlaid on the left side of the image, containing the text 'BTEC – Industry Partnership'.

## **BTEC – Industry Partnership**





## **“He/She Who Pays, Has a Say”**

WOAH Regional Training Workshop on Brucellosis Diagnosis  
Beijing, China P.R., 5-8 August 2025

### **Funding**

50% Industry through levies

20% Commonwealth Government

30% State Governments

National and State BTEC Committees





# Assistance Measures

**Compensation for animals destroyed or depopulated**

**Mustering subsidies**

**Freight subsidies**

**Low interest loans**

**Taxation concessions**

**Advisory services**





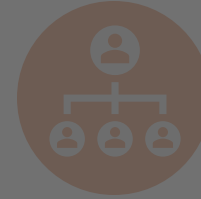
# Challenges



Industry & Government  
Commitment



Funding &  
Cost Sharing



Program  
Management



Agreed Technical  
Standards



Legal Backing



Abattoir  
Surveillance



Tracing



Strict Controls

- ✓ Testing
- ✓ Movement controls based on status
- ✓ Targeted depopulation (residual infection)
- ✓ Compensation and subsidies for farmers affects

**Persistence &  
Be Prepared to be Tough**



# How Australia maintains freedom from *Brucella abortus* in susceptible animals

## Three Pronged Approach



# 1. Cattle Import Conditions to Prevent Introduction of Brucellosis

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## Prevention

Commodity	Import Conditions
Live cattle	N/A - Australia doesn't import live cattle
Bovine semen & embryos (in vivo and in vitro)	Imports permissible only for certain bovine species. Comprehensive import conditions which may indirectly manage brucellosis.
Fresh beef and beef products (unretorted meat)	<p>Australia currently only imports from Japan and NZ.</p> <p>Japan: country health status free from brucellosis (<i>B. melitensis</i>). The meat does not include brain or any pulmonary or reproductive organs or udders (and associated lymph nodes).</p> <p>NZ: some conditions apply but none directly referencing brucellosis</p>
Retorted beef	'The goods must have been hermetically sealed in a container before being heat treated to a minimum core temperature of 100°C, obtaining an F0 value of at least 2.8.'
Casings	'Bovine-derived casings must be from countries recognised by the Department of Agriculture, Fisheries and Forestry as free from foot and mouth disease; and have been assessed by FSANZ and assigned a category 1 or category 2 BSE risk rating.'
Pet food with bovine materials	Needs to be retorted meat or meet high-level requirements including inactivation. Main concerns are contamination with major exotic diseases and the processes that manage this will manage brucellosis.
Milk	'The milk from which the dairy ingredients were made must be heat treated by a method approved by the Australian Director of Biosecurity.' - Not described as particular to brucellosis but process would also manage brucellosis risk





## 2. National Significant Disease Investigation Program

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# Early Detection



Agriculture Victoria  
Significant Disease Investigation Guide

### Biosecurity

You play a key role in the state's animal disease surveillance system. By reporting and investigating significant disease events you will help protect the livelihood of producers and the health of people, companion animals, livestock, and native animals.

This guide aims to help you decide when to initiate a significant disease investigation (SDI) and outlines the process you need to follow. Disease information relating to cattle and sheep has been arranged by syndrome for ease of use in the field.

**A companion edition of this guide has been produced for equine disease. You can obtain a copy by contacting [cvo.victoria@ecodev.vic.gov.au](mailto:cvo.victoria@ecodev.vic.gov.au)**

**Disclaimer**  
This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication. This guide was produced with the help of the Department of Agriculture and Water Resources, the Government of Western Australia, the Northern Territory Government and the Queensland Government. Thanks to Agriculture Victoria staff who also provided pictures.

Screenshot

### The Victorian Significant Disease Investigation Program

The Victorian Significant Disease Investigation (SDI) Program aims to boost Victoria's capacity for the early detection of emergency animal diseases in livestock and wildlife by increasing the participation of veterinary practitioners and subsidising the cost of investigating significant disease events.

Subsidies are available for the initial field investigation, including clinical evaluation and necropsy, laboratory testing and follow-up investigation of significant disease events in livestock and wildlife.

Eligible vets are those in private practice, zoos or wildlife parks. Subsidy details can be found on the Agriculture Victoria Significant Disease Investigation Program website page [agriculture.vic.gov.au/SDI](http://agriculture.vic.gov.au/SDI)

**To be considered a significant disease event and be eligible for the subsidies one or more of the following criteria must be met:**

- An unusual or atypical manifestation of disease, including high morbidity, mortality and/or rate of spread; or
- An initial investigation fails to establish a diagnosis, including when veterinary treatment does not produce an expected response; or
- There are findings suggesting a possible effect on trade, public health, biodiversity or the viability of the farm, industry or region, excluding events where there is a genuine suspicion of an emergency animal disease.
- Where there is a genuine suspicion of an exotic or emergency animal disease, the department will lead the disease investigation and cover the cost of the investigation.

**If you suspect an exotic or emergency animal disease, call the EAD Watch Hotline 1800 675 888.**



**EMERGENCY ANIMAL DISEASE WATCH HOTLINE 1800 675 888**

3



## Zoonotic disease differentials for syndromes seen in cattle:

Syndrome	Disease	Modes of transmission	Precautions at the property
Reproductive	Bovine brucellosis	Direct contact / ingestion of animal products	Wear PPE for examination of animals. Avoid ingestion of contaminated material.
	Leptospirosis	Urine, reproductive fluids	Avoid splashing or inhaling body fluids, wear PPE.
	Listeriosis	Direct contact with infected placenta/foetus, ingestion of infected animal products	Wear PPE for examination of animals. Avoid ingestion of contaminated material.
	Q Fever	Inhalation of aerosols from infected animals particularly placenta and fluids, and contaminated dust. Direct contact through open wounds.	Wear appropriate PPE (particularly if not immune).
Respiratory signs	Bovine tuberculosis	Direct transmission by ingestion, inhalation and instillation	Remove suspect animals from food chain. Wear PPE for necropsy.
Skin lesions	Ringworm	Direct contact with infected skin	Wear gloves to examine animals. Wash hands and equipment.
	Pseudocowpox	Direct contact with infected cattle	Wear gloves to examine animals. Wash hands and equipment.
Sudden death	Anthrax	Direct contact with infected fluids and tissues	Wear PPE for examination of animals, avoid contamination from discharges and avoid opening carcass.



# 3. Emergency Response

## AUSVETPLAN

### Disease Strategy Bovine brucellosis Version 3.0, 2005

AUSVETPLAN is a series of technical response plans that describe the proposed Australian approach to an emergency animal disease incident. The documents provide guidance based on sound analysis, linking policy, strategies, implementation, coordination and emergency-management plans.

### 3.1 Overall policy

Bovine brucellosis is an OIE-listed disease that has the potential for rapid spread within a herd and may spread to other herds. It is important in the trade of cattle and is a significant public health issue. It is difficult to recommend a single strategy for the eradication of bovine brucellosis for Australia that will be practical for all circumstances or locations.

The overall policy is to eradicate brucellosis by:

- *destocking*, which involves quarantine, slaughter of all infected and exposed susceptible animals and sanitary disposal of destroyed animals (where only a small number of properties are involved, this strategy will be extended to include them); and
- *test and slaughter*, which involves regular serological testing of suspect animals and slaughter of those that test positive, used if brucellosis has spread more widely.

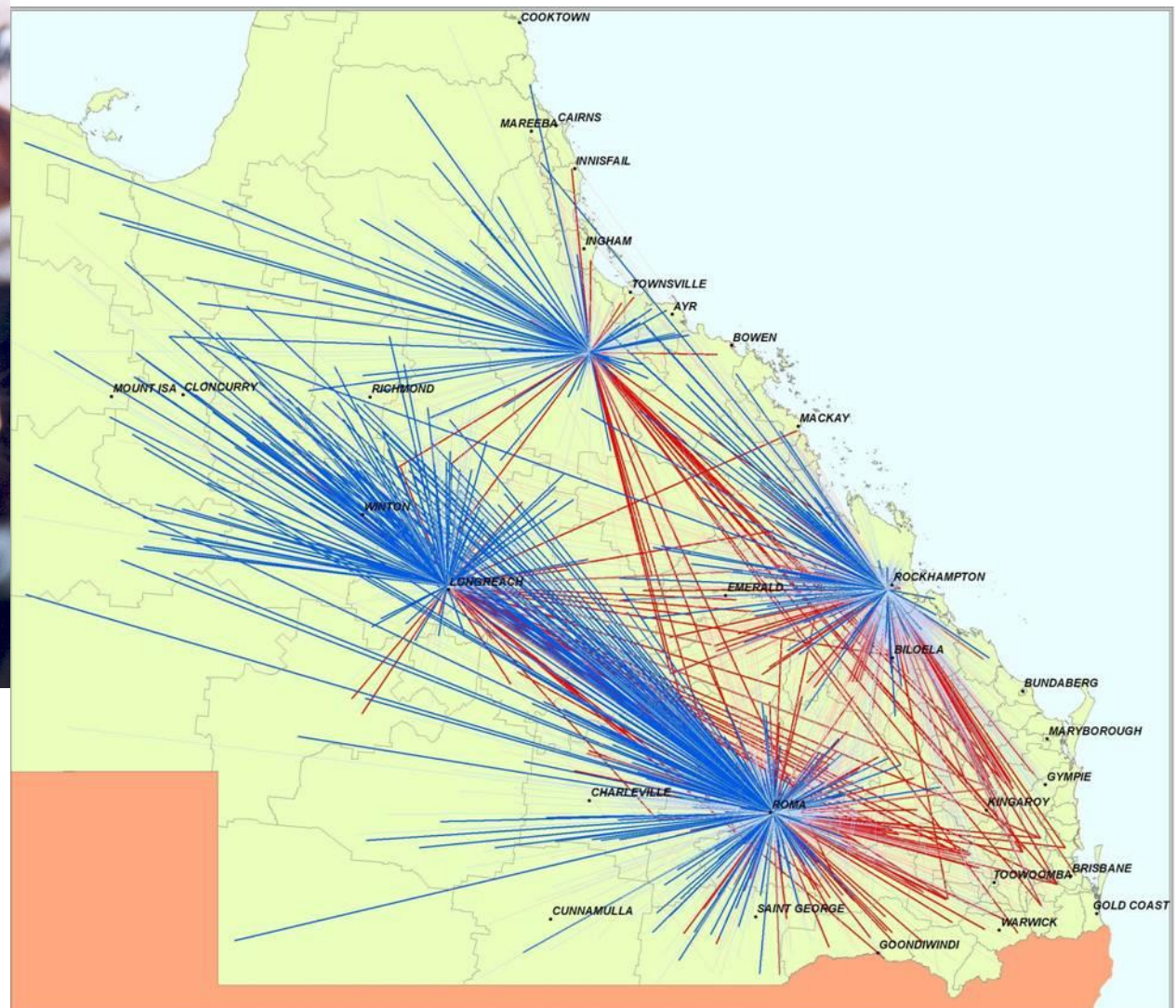
These strategies will be supported by:

- *quarantine and movement controls* on animals on infected and suspect properties to prevent the spread of infection;
- *tracing and surveillance* to determine the source and extent of infection and to provide proof of freedom from the disease;
- *vaccination*, which should be considered for assisting in the eradication of the disease if a major disease outbreak occurs in Australia or if particular situations warrant;
- *zoning* to define infected and disease-free areas; and
- *a public awareness campaign* to facilitate cooperation from industry.

An uncontrolled outbreak of brucellosis would cause severe production losses to the affected producers with potential dislocation and financial losses to the cattle industry from effects on exports. There is potential for human disease and occupational health and safety measures must be adopted.

Bovine brucellosis is an Animal Health Australia Category 2 disease under the government–industry EAD Response Agreement for cost-sharing arrangements. Category 2 diseases are those for which costs will be shared 80% by government and 20% by industry.









# Thank you!

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