



ANIMAL HEALTH, DISEASE MANAGEMENT, LIVESTOCK TRACEABILITY AND PEST MANAGEMENT.



SHAREHOLDERS AND INVESTORS

New Zealand Government

Dairynz 

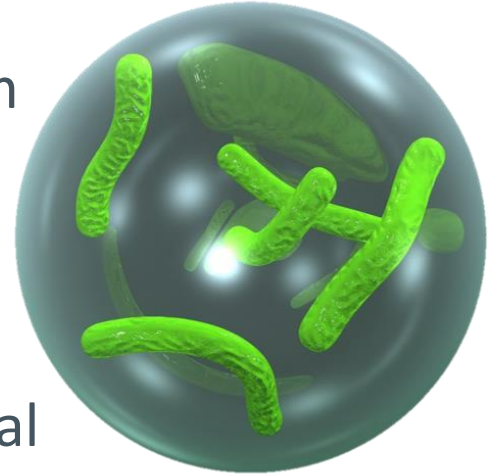




TBfree

WHAT IS BOVINE TB? AND WHY WORRY

- Zoonotic disease that can be transmitted from animals to humans.
- Infectious bacterial disease caused by *Mycobacterium bovis*
- TB is a threat to NZ's reputation for agricultural products.





Bovine TB has a long history in New Zealand with the human element evident with TB testing commonplace in rural New Zealand.

At its peak New Zealand had over 1700 infected herds located throughout the country

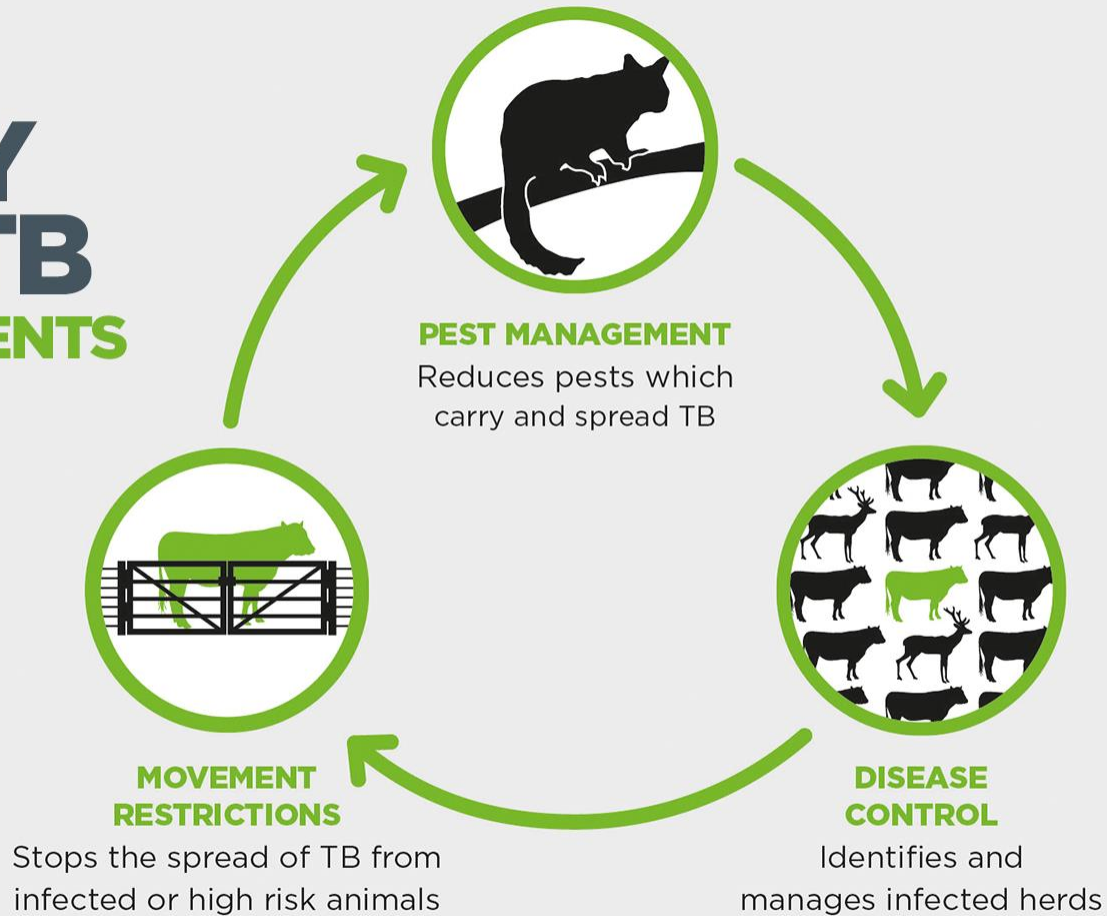


**TB IS SPREAD
THROUGH CONTACT
WITH INFECTED
WILD ANIMALS,
MAINLY POSSUMS.**



HOW WE CURRENTLY CONTROL TB

THREE KEY COMPONENTS



A diagonal timeline on a dark blue background, starting from the top left and extending towards the bottom right. It features a series of white vertical bars of varying heights that act as markers for key events. Text labels are placed to the left or right of these markers, with some text in green and some in white.

**TB has been in New Zealand
for over 100 years**

**Actively
managed
since the
1950s**

**Possum-TB link
identified late 1960s**

**Resurgence in the
1980s & 1990s**

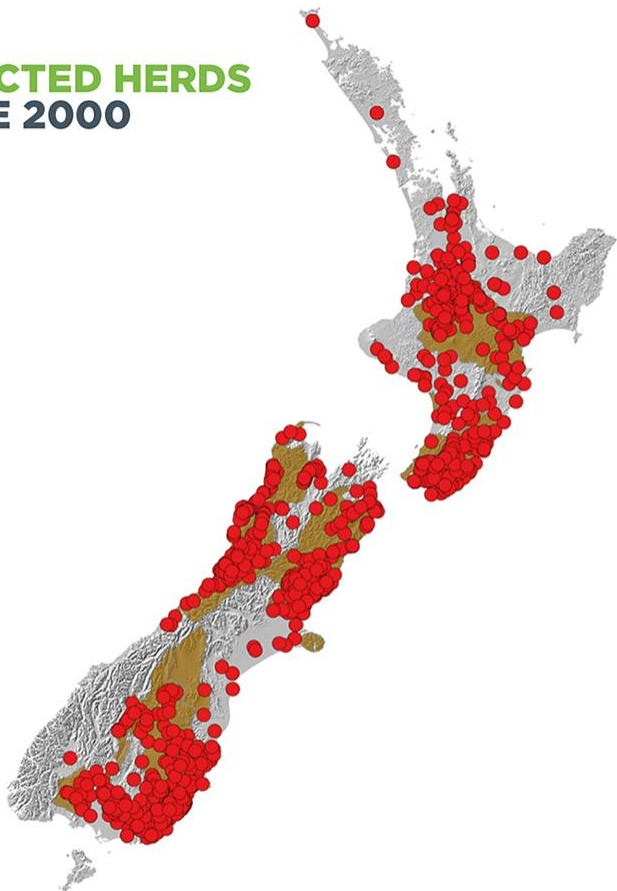
**Almost 1,700
infected herds
at peak in 1994**

**National Strategy
introduced in 1998**

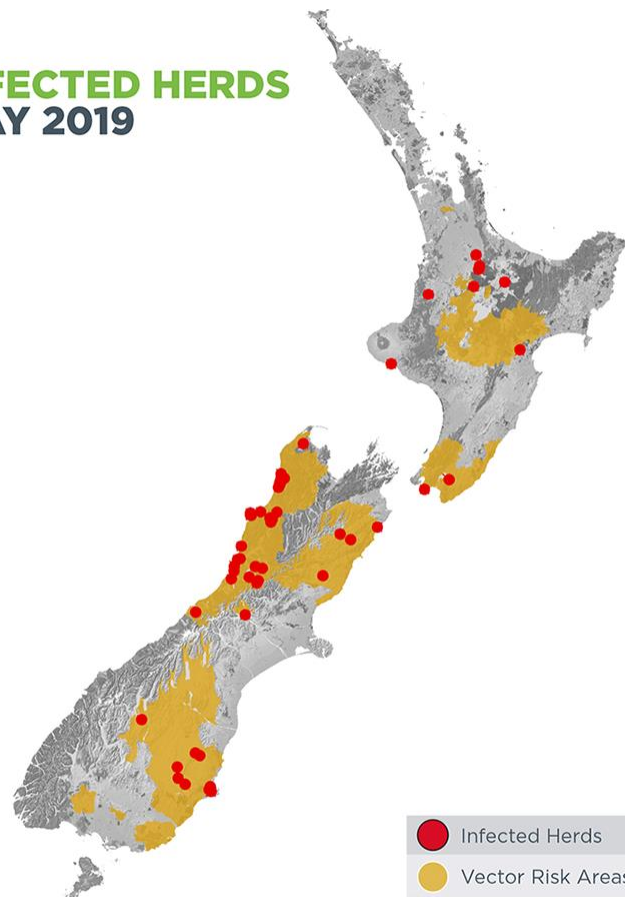
**Committed collaborative
investment by farmers and
local/central government
since 2000**

**27 herds
infected in
May 2019**

695 INFECTED HERDS
AT 1 JUNE 2000



27 INFECTED HERDS
AT MAY 2019





***TB ERADICATION IN NEW
ZEALAND IS FEASIBLE USING
CURRENT TECHNOLOGY***



OUR GOALS



2026



2040



2055

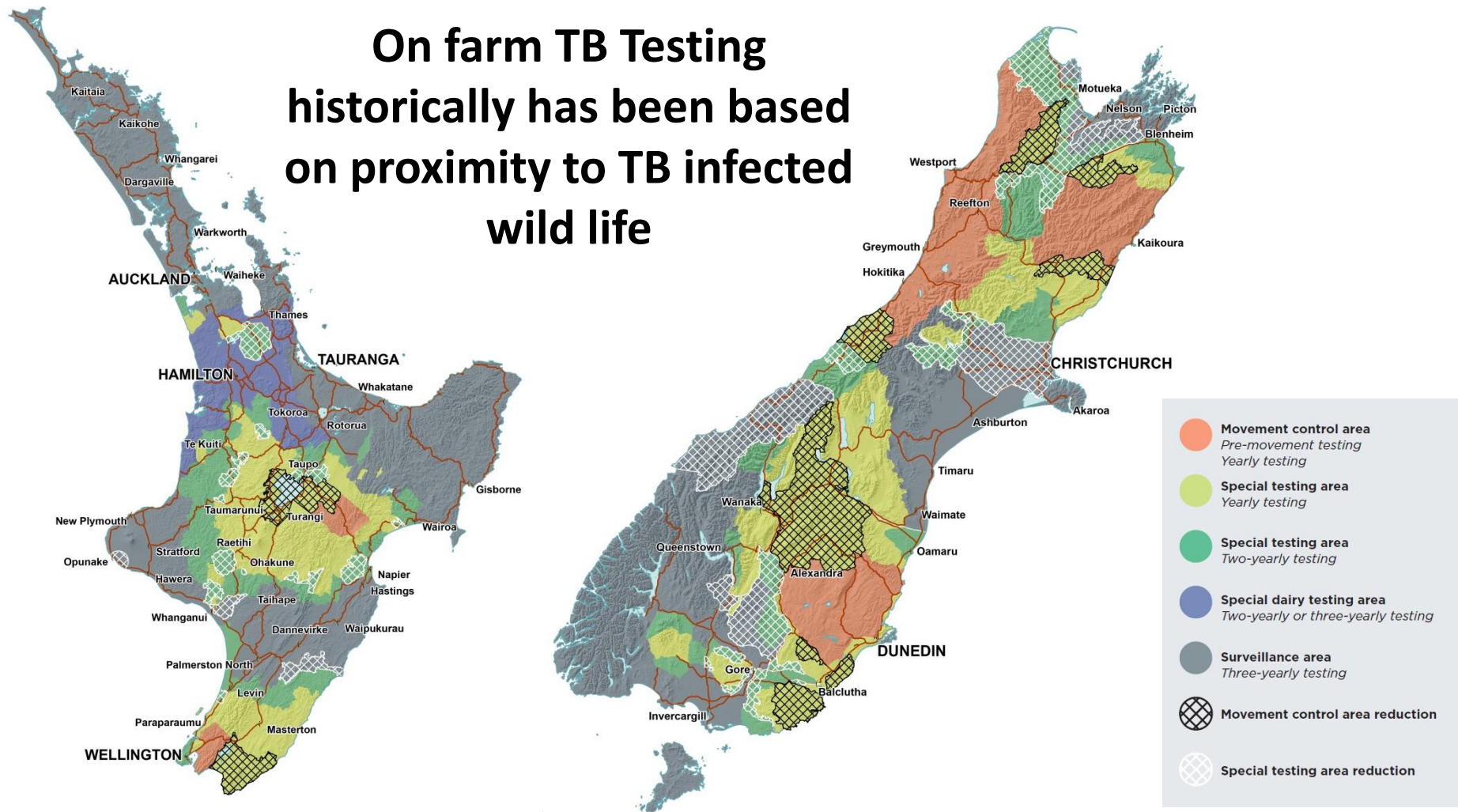
< 0.2% PERIOD PREVALENCE





CLEAR PLAN TO ACHIEVE TB FREEDOM

On farm TB Testing historically has been based on proximity to TB infected wild life

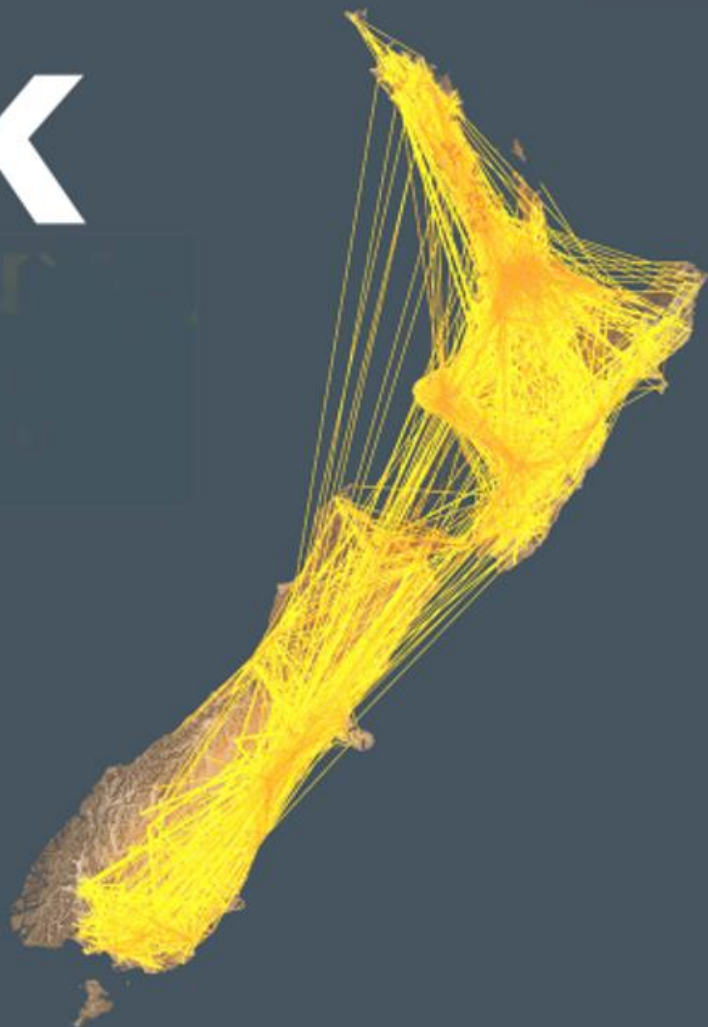




ONE WEEK

28,349 MOVEMENTS

235,850 ANIMALS



DATA COLLECTED 1 AUGUST 2019 • 7 AUGUST 2019

ONE HERD

1,686 LOCATIONS

7,131 MOVEMENTS IN

6,329 MOVEMENTS OUT

16,049 SECONDARY MOVEMENTS

DATA COLLECTED 1 JANUARY 2014 - 1 JANUARY 2015



SLAUGHTER SURVEILLANCE REVIEW PROJECT

- Slaughter surveillance is key component of RBT framework
- Post mortem detection probability based on 1990 study:
 - Corner *et al* (1990)
 - Moderate detection sensitivity (53%)
 - Based on Australian PM specs from 1980s
- Parameter used in OSPRI surveillance/POF models
- Nearly 30 years old study so needed reassessment for NZ

SLAUGHTER SURVEILLANCE PROJECT: DESIGN

- Three components:
 - Literature review (*Sinclair/Dawson*)
 - Sensitivity assessment of TB slaughter surveillance in New Zealand (*Ryan*)
 - *Gross post mortem TB pathology in cattle/deer*
 - *Detection probability of Red Meat CoP Chapter 7 specs*
 - TB slaughter sensitivity assessment case studies

SLAUGHTER SURVEILLANCE PROJECT: RESULTS

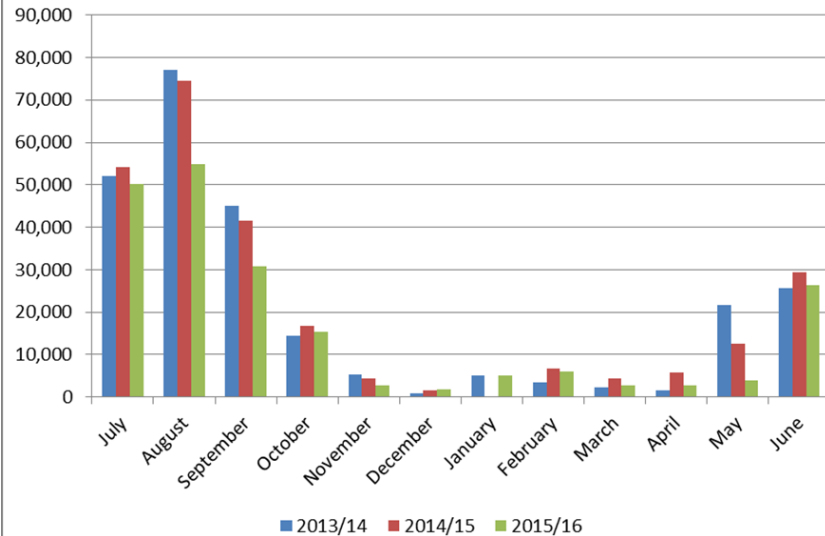
- Red Meat CoP Chapter 7 PM specs:
 - Are in accord with the likelihood (or risk) of lesions being present
 - One exception being mesenteric l/n inspection in deer where TB risk is present
 - Estimated detection probability 75% (range 70-80%)
 - Substantially higher than 1990 Corner study

SLAUGHTER SURVEILLANCE PROJECT: RESULTS

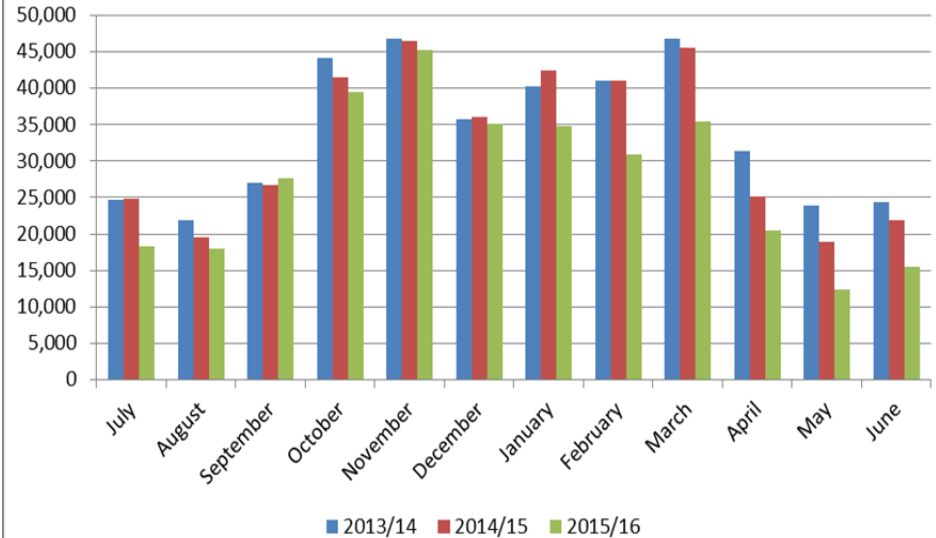
- Need to maximise surveillance sensitivity
 - Throughout the whole surveillance system under the proposed RBT framework
- High TB detection probabilities at slaughter:
 - Requires the consistent delivery of the post-mortem inspection service, in face of low TB prevalence:
 - Delivered by suitably trained individuals
 - Supported by on-going skills maintenance programmes
 - Adopt some lessons from Australian BTEC/TFAP NGSP

WHOLE OF TB SURVEILLANCE SYSTEM

Deer Tests by Month



Deer Killed by Month Through Registered Slaughter Premises



NEXT STEPS

TB surveillance during routine meat inspection remains key to the success of the TB plan

- Development of refresher programme in partnership with AsureQuality with advice from MINTRAC
- Delivery of training programme across the country aimed at all meat inspectors at all processors within one year.

POST-MORTEM SURVEILLANCE PROJECT

- Aims to increase awareness of Bovine Tuberculosis
 - Assist training Official Assessors in identification and submission of suspicious lesions
 - Provide feedback on submission rates and results
 - Help New Zealand become biologically free of TB by 2055

WHAT DOES IT LOOK LIKE

The training programme uses a range of learning resources to reinforce the importance of each decision they make

- An OSPRI video providing the reinforcement regarding the importance of meat inspectors' decisions

PRESENTATION 1

- TB story – aimed at giving course participants an overview of the future TB



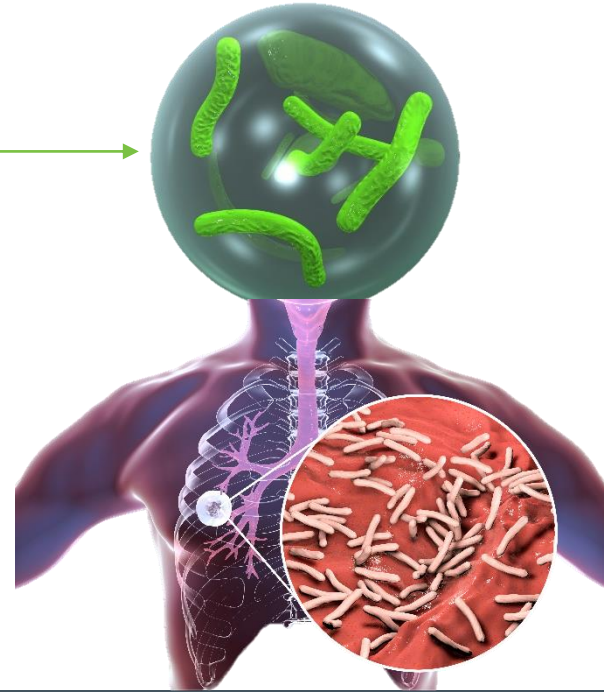
PRESENTATION 2

- Overview of Bovine Tuberculosis
- TB Lifecycle
- States of TB infections
- Identification of suspect lesions.



WHAT IS BOVINE TB?

- Infectious bacterial disease caused by *Mycobacterium bovis*
- *Mycobacterium tuberculosis* (more common form of TB in humans) is in the same group as *M. bovis*.

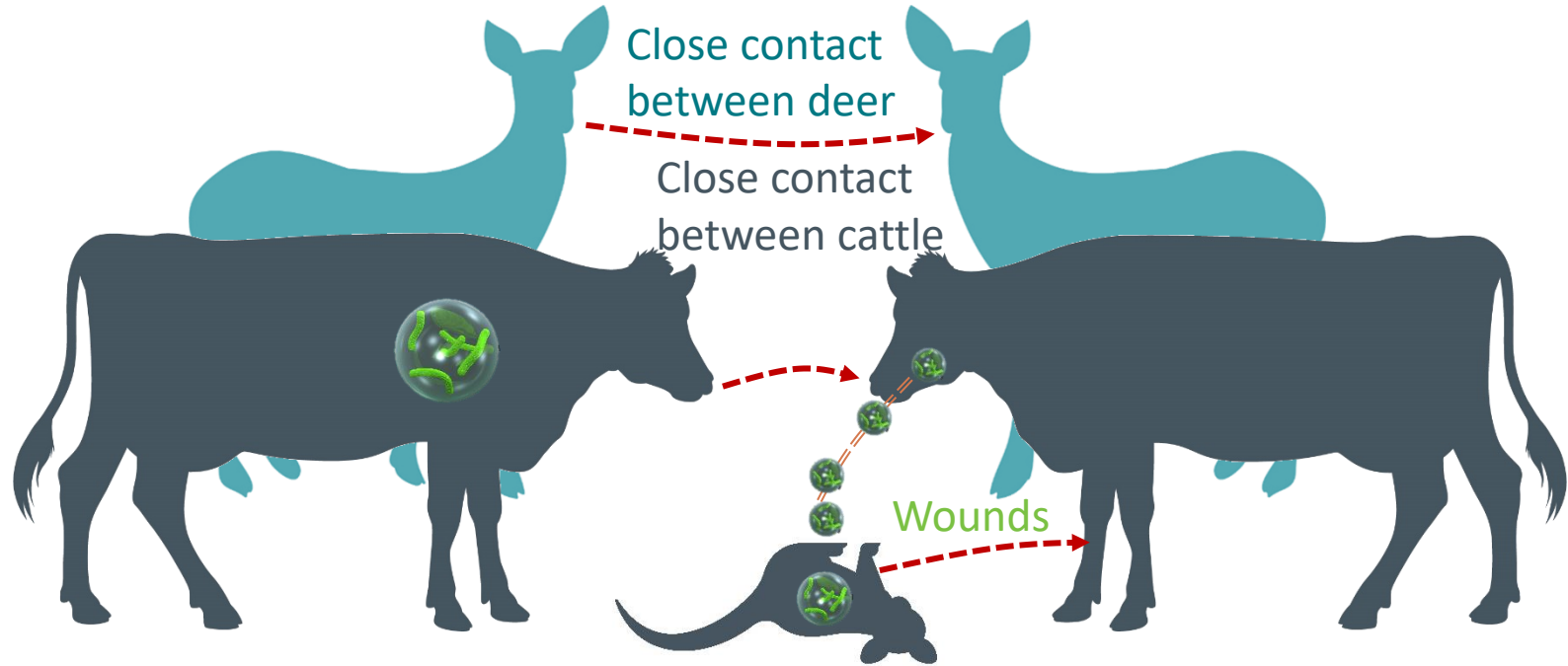


WHAT IS BOVINE TB?

- *M. bovis* affects all mammals in particular cattle, deer, pigs, possums, ferrets, and humans.
- Can be transferred to people through:
 - Milk transmission (raw milk)
 - Handling infected animal carcasses.

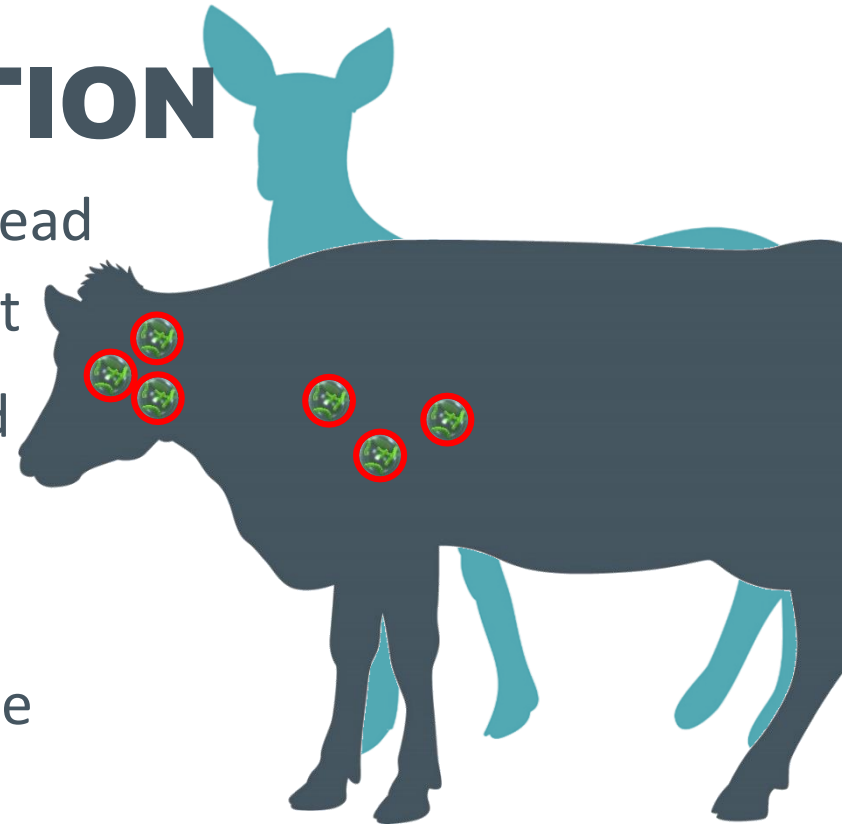


BOVINE TB INFECTION



BOVINE TB INFECTION

- Bacteria invades tissues - usually head and lung lymph nodes affected first
- Lymph nodes affected in cattle and deer of all ages and sexes
- Golden-yellow abscess enclosed in white fibrous capsule (cattle), white pinhead pricks (deer).



PRESENTATION 3

- Inspection procedures
- Sampling procedures
- Good hygiene practices
- Health and safety precautions
- Results and product disposition
- Feedback process.



INSPECTION PROCEDURES

Relates to cattle and deer:

- TB reactors
- Suspect lesions found
- Routine inspection.

Deer plants must use a risk-based approach (Low risk, High risk).

All cattle are treated the same due to the amount of movement around the country.

ROUTINE PM PROCEDURES

- Follow the routine PM Procedures
- If TB reactor animals or animals in which lesions suspicious of tuberculosis are found, follow additional procedures (Red Meat CoP 4.2.2 – Cattle, 4.3.2 – Deer).



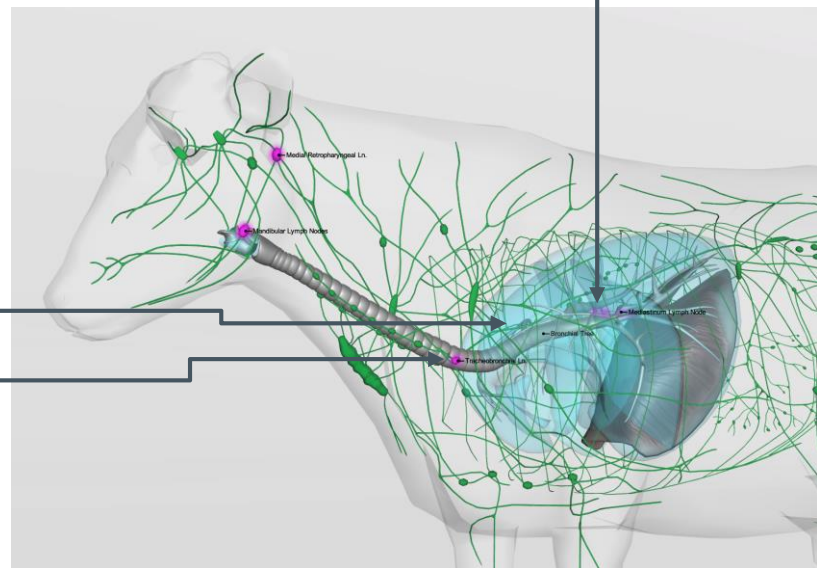
ADDITIONAL PM PROCEDURES

Incise the following lymph nodes thinly (approx. 2-3 mm) and carefully examine cortex for tuberculous lesions:

- Left and right bronchial;
- Anterior, middle and posterior mediastinal;
- Right apical.

Right apical
bronchial

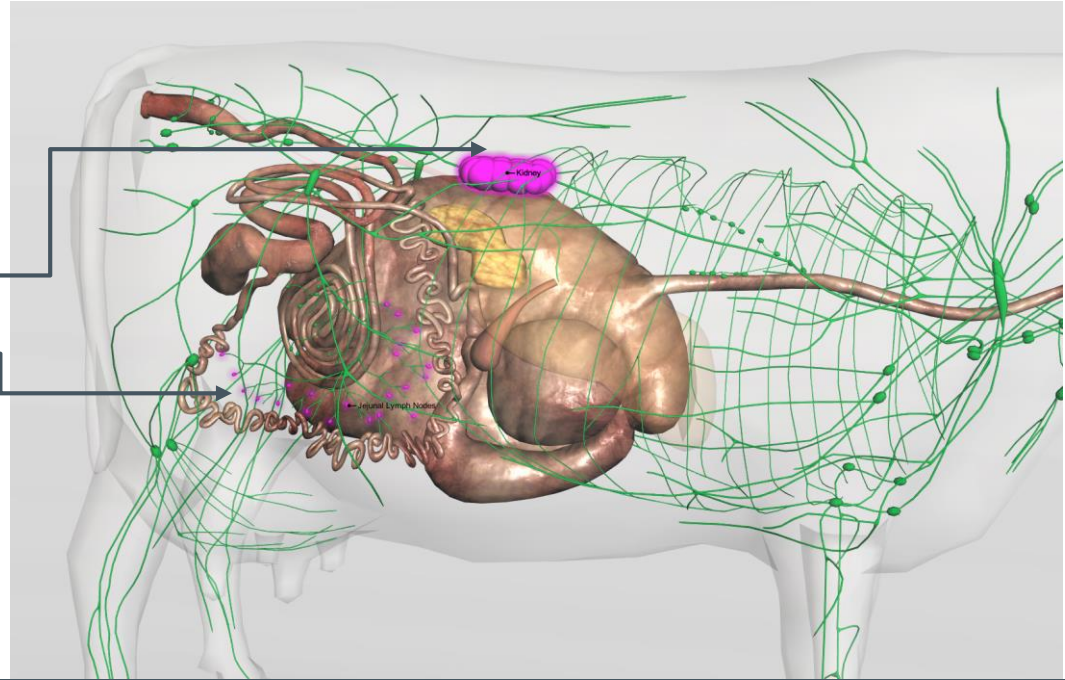
mediastinals



ADDITIONAL PM PROCEDURES

Also incise and view the following lymph nodes:

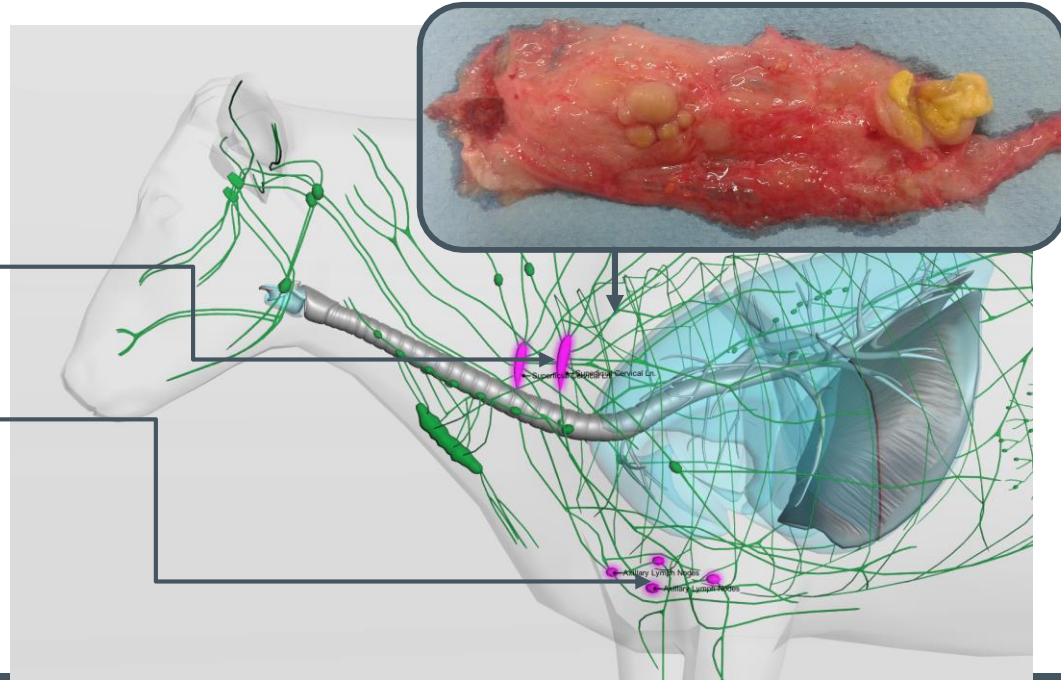
- Abdominal viscera:
 - Renal
 - Mesenterics.

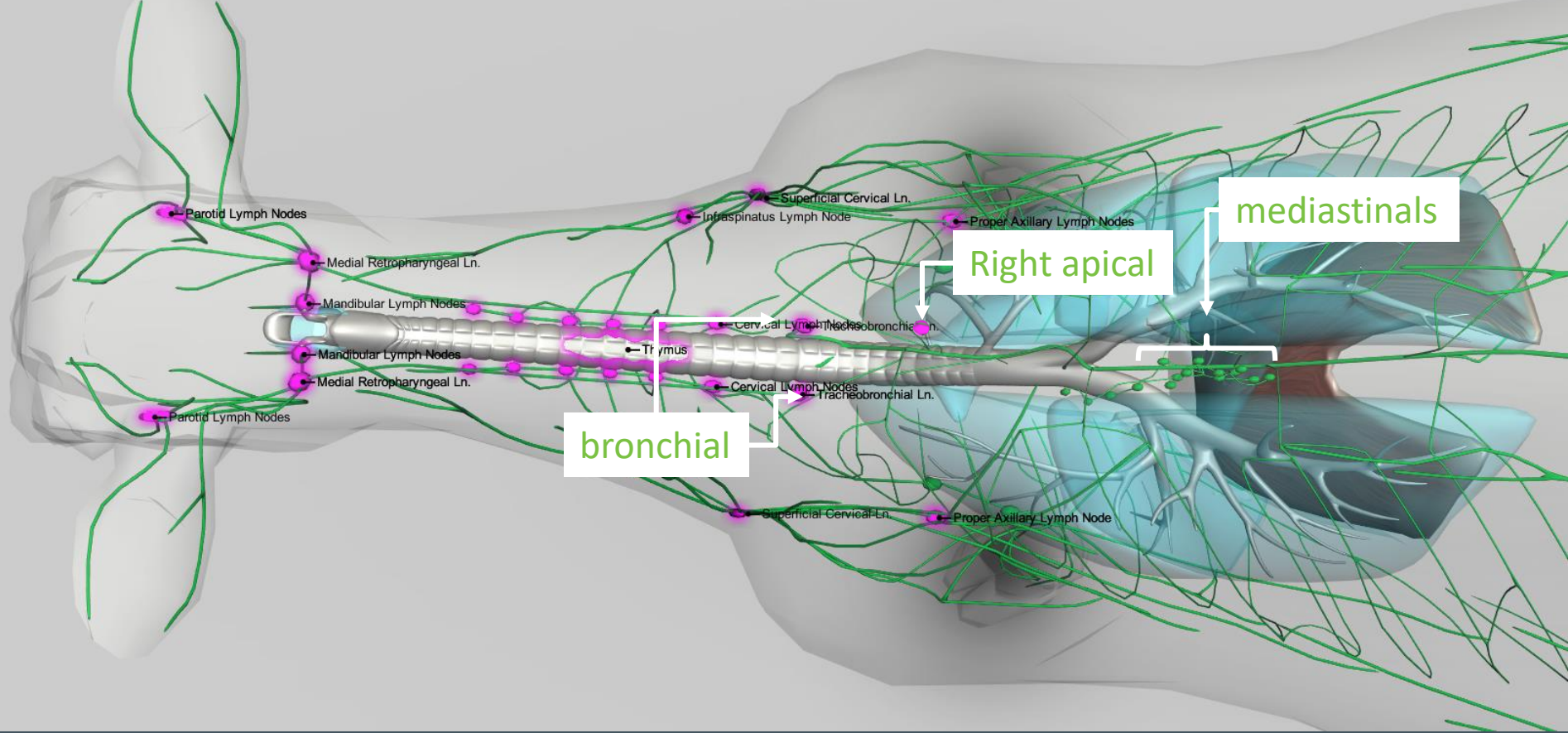


ADDITIONAL PM PROCEDURES

Also incise and view the following carcass lymph nodes:

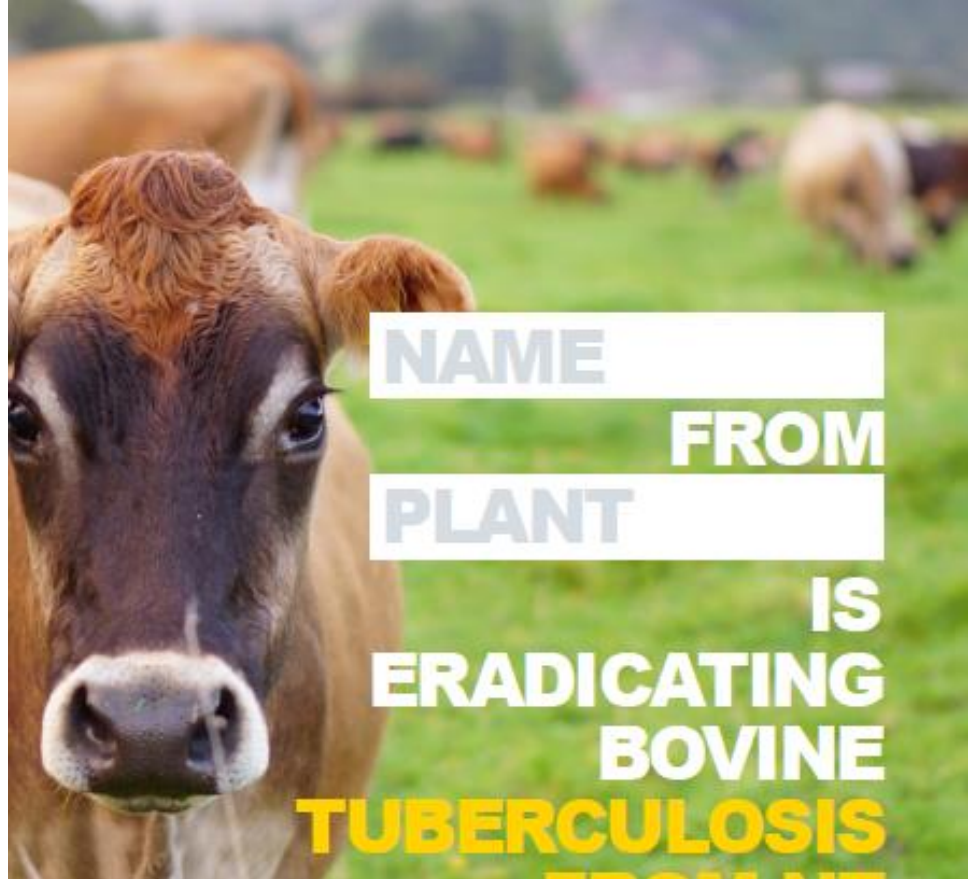
- Superficial cervical (Prescapular)
- Prepectoral.





Assessment check for all participants

- Multi Choice
- Open Book



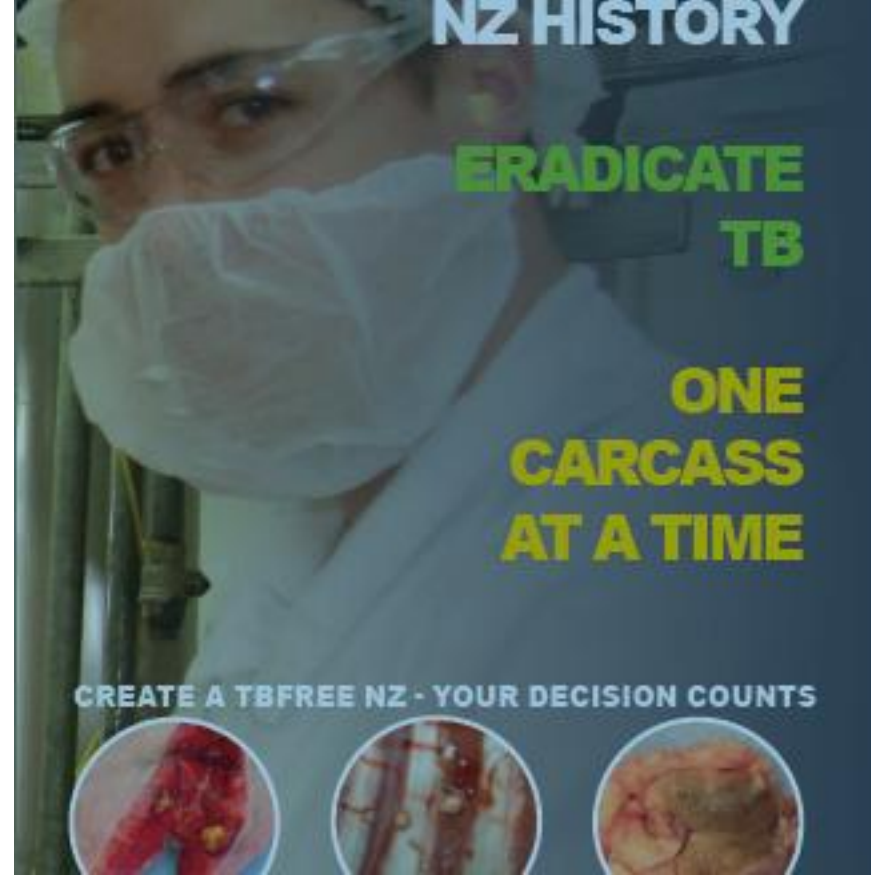
TB Photo Gallery

Providing a resource copy left
at all plants post the training



Posters sent to plants

- A range of posters for both cattle and deer plants have been created
- Posters to be sent on a reoccurring basis



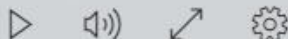


THE JOURNEY

ERADICATING BOVINE TUBERCULOSIS FROM NZ



TBfree is an OSPRI programme



Acknowledgments



