

PNEUMONIA IN SHEEP

Research Update



Second milestone achieved

Our research project on pleurisy/pneumonia in sheep (Ovine Respiratory Complex, ORC) has achieved its second milestone.

We have completed 12 abattoir visits since starting the project in October 2020, inspected 27,932 sets of ovine lungs and sampled 592.

Sample collection and polymerase chain reaction (PCR) testing are confirming the findings of our previous research on ORC, with widespread detection of *Mycoplasma ovipneumoniae* in lungs from lamb and sheep carcasses sourced from eastern and southern Australia. To date, 42% of samples and 66% of abattoir lots have tested positive for *Mycoplasma ovipneumoniae*.

Lower numbers of ovine lung samples have tested positive for *Mannheimia haemolytica* and *Pasteurella multocida*.

KEY POINTS

- **RESEARCH PROJECT ACHIEVES THE SECOND MILESTONE.**
- **SAMPLE TESTING IS REVEALING WIDESPREAD INFECTION WITH MYCOPLASMA OVIPNEUMONIAE IN AUSTRALIAN SHEEP.**
- **INFECTION WITH MYCOPLASMA OVIPNEUMONIAE CAUSES PLEURISY AND PNEUMONIA IN SHEEP.**

Mycoplasma ovipneumoniae

Mycoplasma ovipneumoniae was first isolated from two large sheep flocks in southern Queensland in the 1960s that had shown poor growth rates and reduced exercise tolerance for some years.

Mycoplasma are a type of bacteria. Infection with *Mycoplasma ovipneumoniae* predisposes sheep to secondary lung infections with other bacteria such as *Mannheimia haemolytica* and *Pasteurella multocida* that normally live in the nose and throat of sheep without causing any harm. Once in the lung these bacteria grow and secrete toxins that cause inflammation and lung tissue destruction.

All breeds of sheep are susceptible to infection with *Mycoplasma ovipneumoniae*. Infection persists in a flock in chronic carrier ewes and rams, with infection passing from ewes to lambs soon after birth. Lambs may begin showing signs of infection (wheezing, coughing, difficulty suckling, runny nose) from around 1-2 months of age.

Mycoplasma ovipneumoniae and pleurisy in sheep

The pleura is a thin membrane that covers the outside of the lungs and the inside of the chest cavity.

When animals have pneumonia, the pleura can become inflamed. Approximately 20% (1 in 5) sheep that have pneumonia from *Mycoplasma ovipneumoniae* infection will develop pleurisy.

Pleurisy is a problem in sheep processing plants because it makes it difficult to eviscerate the carcass. Trimming for pleurisy is estimated to result in a 1 kg per carcass loss to producers. In addition to lost carcass weight will be the financial penalty to some producers from the trimmed carcass no longer being within specification. Losses are highly leveraged to the processor as high value cuts and the on-floor costs incurred by the abattoir in handling affected carcasses.



**PCR detects
pathogen
DNA/RNA**

