

OJD Vaccination: What you should know

Accurate information about ovine Johne's disease (OJD) for producers

Vaccinating sheep with Gudair® is a key tool in the fight to control the spread of ovine Johne's disease (OJD) in Australia but it is not a *silver bullet*. Effective prevention and control of OJD requires a multi-pronged approach of **vaccination, abattoir monitoring/testing, purchasing and selling sheep with high Assurance Based Credit (ABC) scores declared on a national Sheep Health Statement.**

Trials support vaccination

Early research on the OJD vaccine focused on a single generation of lambs in three high prevalence OJD-infected flocks. The trial found that both OJD-related mortalities and the prevalence of sheep shedding the *Mycobacterium avium* subspecies *paratuberculosis* (*MPtb*) were reduced by 90%. The success of the trial led to the registration and widespread promotion of the vaccine, Gudair®.

Further vaccination trials

It was later decided to also test the vaccine in flocks with lower prevalence of the disease and to estimate how long vaccination should continue in such flocks.

In 2004, a long-term longitudinal study began monitoring the efficiency of Gudair® in 11 New South Wales flocks with varying levels of OJD prevalence. This study measured the shedding rates of *MPtb* in 4 consecutive drops of vaccinated lambs.

In the same year, a five-year, cross-sectional study commenced in 40 flocks across New South Wales and Victoria with varying prevalence levels. This study measured the shedding rates in three and four-year-old sheep from flocks where vaccination of lambs had occurred for the past five years.

In 2010, an additional investigation into shedding rates was carried out on 16 flocks on Kangaroo Island (6 had been released from quarantine, 9 were due for release from quarantine and 1 was infected and not an approved vaccinated flock). A further study monitored shedding in 6 New South Wales flocks where producers had ceased vaccinating wethers being sold before the age of two.

What the trial results told us

- The results from the trials showed that in the majority of farms tested (82.5% from 40 farms) *MPtb* shedding continued to persist in some sheep for at least 6 years after a lamb vaccination program was commenced.
- Results from the shedding trial of unvaccinated young wethers found their prevalence of shedding was 7 times greater than for the same aged ewes that had been vaccinated.
- The results from the Kangaroo Island study showed that 14 of the 16 flocks tested negative for shedding. It is worth noting that the two positive flocks had unvaccinated sheep introduced to their properties.

Overall, these investigations show that vaccination is effective in reducing mortalities and, in most flocks, reducing the level of shedding.

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Key points to note:

- Vaccination alone does not eliminate infection
- Introducing non-vaccinates from infected flocks or nil assurance flocks from the High Prevalence and Medium Prevalence Areas, or leaving some sheep unvaccinated, increases the pressure of infection on the vaccinated sheep.

Another risk factor study carried out by the University of Sydney in 2007 confirmed that: **vaccination alone is not enough to prevent OJD in already infected flocks or to stop the disease spreading to uninfected flocks and regions.**

This means that without full vaccination coverage and additional biosecurity practices, such as buying low-risk sheep and monitoring for disease, many flocks remain at risk of continued transmission of the disease. Property boundary controls to minimise the spread of the disease through straying sheep – and the use of ABC scoring and National Sheep Health Statement when purchasing and selling sheep – are important supporting strategies that should always be used in conjunction with vaccination.

What should I do?

To effectively manage or control OJD, producers with infected flocks or who are living in Medium or High Prevalence Areas, need to take an on-going, multi-pronged approach to protecting their flocks from OJD. Producers need to:

- **Implement a long-term vaccination program** to minimise stock losses and reduce environmental contamination, including vaccinating all lambs being retained on the property past 12 months of age. In certain situations whole flock vaccination may be considered on the advice and recommendation of your veterinarian.
- **Always purchase from flocks with a substantially higher ABC score than your own** to reduce the risk of introducing infection (as declared on the national Sheep Health Statement).
- **Improve ABC scores** through ongoing vaccination programs and regular negative abattoir monitor or flock testing.

Producers in Low Prevalence Areas should only purchase sheep with high ABC scores.

Research into OJD is important and ongoing. For more information about Johne's disease and updates on research developments visit www.ojd.com.au.

Sheep Health Statements are available from www.farmbiosecurity.com.au

