

# OJD VACCINATION WHAT YOU NEED TO KNOW

## KEY POINTS:

- ▶ Vaccination is a key tool used to control OJD on infected farms and protect non-infected farms
- ▶ Vaccination alone does not eliminate or prevent infection
- ▶ Introducing non-vaccinates can potentially increase the pressure of the infection on vaccinated sheep, reducing the efficacy of the vaccine

To effectively manage OJD, producers with infected flocks 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
- ▶ Always purchase “low risk”\* sheep by using the National Sheep Health Statement
- ▶ Instigate farm biosecurity to reduce strays and contamination from water sources

Vaccinating sheep with Gudair® is a key tool in the fight to control the spread of ovine johne’s disease (OJD) in Australia. The vaccine is a single 1mL dose usually given at marking, providing life long immunisation against OJD. Trial work has shown that when this vaccine is administered to animals prior to exposure to the bacteria that cause OJD, it reduces shedding of the bacteria, delays the onset of clinical disease (severe wasting) and reduces flock mortalities.

However, like most vaccines, Gudair is not a “silver bullet”. To control OJD on-farm, vaccination must be used in conjunction with effective farm biosecurity, grazing management, ongoing abattoir/on-farm monitoring, and purchasing sheep that you consider are “low risk”\* based on the National Sheep Health Statement.



\* Measurement of risk varies from farm to farm. When assessing risk, producers should seek professional advice to suit their requirements.

## TRIAL WORK SUPPORTING VACCINATION

Early research on the OJD vaccine focused on a single generation of lambs in three flocks heavily infected with OJD. The trial found that both OJD-related mortalities and the prevalence of sheep shedding the bacteria that causes OJD, *Mycobacterium avium* subspecies *paratuberculosis*, were reduced by 90%. In addition, onset of clinical disease was delayed by up to 12 months<sup>1</sup>. The success of this trial led to the registration of Gudair®.

## FURTHER VACCINATION TRIALS<sup>2</sup>

In 2008-2009, a long-term longitudinal study monitored the efficacy of Gudair® in 11 flocks in New South Wales which had varying levels of OJD infection. This study measured the shedding rates of the bacteria in four consecutive drops of vaccinated lambs.

In 2008-2009, a five year cross-sectional study commenced in 40 flocks in New South Wales and Victoria. 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.

The results from these trials found that in the majority of farms tested (82.5%), the shedding of bacteria continued to persist in some sheep for at least six years after a lamb vaccination program was introduced. It was also found that the prevalence of unvaccinated young wethers shedding the bacteria was greater than for the same-aged ewes that were vaccinated as lambs.

**This means that vaccination is effective, but ongoing vaccination in all stock is essential to ensure that shedding is minimised.**

## KANGAROO ISLAND<sup>3</sup>

Since the first diagnosis of OJD on a property on Kangaroo Island in 1998, a regulated eradication program has taken place, involving voluntary destocking, whole flock vaccination and the introduction of approved vaccinates. This has resulted in a reduction in the total number of properties infected with OJD from 97 flocks to only 20.

In 2010, 16 flocks where OJD had been found and where whole flock management practices, including vaccination was conducted for at least six years, were enrolled in a study to test for bacterial shedding. Of these, 14 flocks tested negative. The two positive flocks were found to have introduced unvaccinated sheep.

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

## HOW TO VACCINATE WITH GUDAIR®

Gudair® is a highly reactive, oil-based vaccine that can result in serious injury if incorrectly administered or exposed to humans. It is recommended that a safety vaccinator with a protective shroud is used to reduce the risk of injury.

- ▶ ONLY inject under the skin, behind the ear
- ▶ Use shortest needle possible
  - Lambs – ¼ inch
  - Sheep – ½ inch
- ▶ Use adequate restraint – lambs should be in the cradle, sheep packed tightly in a race

Most vaccinates will have a lump appear at the sight of injection which will disappear after a few months. Abscesses, a staggering gait or deaths are NOT normal, and should be reported to Zoetis Technical Services as soon as possible.

All approved vaccinates should be identified with a “V” on the NLIS ear tag.



**FOR FURTHER INFORMATION PLEASE CONTACT YOUR LOCAL ZOETIS PROFESSIONAL SALES REPRESENTATIVE OR ZOETIS TECHNICAL SERVICES ON 1800 814 883**

1. Reddacliff L, Eppeleston J, Windsor P, Whittington R, Jones S [2006] Efficacy of killed vaccine for the control of paratuberculosis in Australian sheep flocks, *Vet Micro*, 115: 77-90.

2. Windsor P [2013] Understanding the efficacy of vaccination in controlling ovine paratuberculosis, *Small Ruminant Research*, 110: 61-164.

3. Nosworthy P, Ewers A, Masters A [2012] Kangaroo Island control of ovine John's disease – a success story, *Proceedings of the 11<sup>th</sup> International Paratuberculosis Colloquium*, Sydney, 277-281.