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\(^1\). The success of this trial led to the registration of Gudair®.

FURTHER VACCINATION TRIALS\(^2\)

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\(^3\)

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 vaccines. 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.

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