

How to make the decision to start vaccinating with Gudair® for the control of ovine Johne's disease in sheep



How do you make the decision to start vaccinating with Gudair?

Farm productivity can be severely hit by ovine Johne's disease (OJD) – a bacterial disease that infects the sheep's intestines, preventing absorption of nutrients and resulting in poor growth and reproduction. Gudair vaccine is an important tool in the management of OJD, but many farmers are asking the question: *"How do you make the decision to start vaccinating with Gudair?"*

When is a good time to begin vaccinating?

- 1. When you buy sheep that could have OJD** – This could be **any** sheep, but especially those that are not from a SheepMAP (Market Assurance Program) farm, or do not have a Sheep Health Statement indicating a low risk of OJD infection. If sheep are already vaccinated they will have less chance of transferring disease to your farm. In addition, if **your** flock is already vaccinated, the impact of an inadvertent introduction of OJD-infected sheep will be minimised. When buying sheep, look for an ear tag with a 'V' mark that will indicate sheep have been vaccinated.
- 2. When you sell sheep** – Many buyers are already managing OJD, or want to prevent entry of OJD onto their farm. This results in demand for sheep that are already protected by Gudair vaccination.
- 3. When your farm has OJD** – The diagnosis of OJD can be confirmed by veterinary post-mortem of sheep on the farm, by asking for an 'Abattoir 500' test, or by requesting a culture or PCR test of sheep dung to confirm the bacteria is present. Gudair vaccination limits losses and assists with control and eradication of OJD.

Infection and incubation period

The Johne's bacteria are shed in the dung of infected animals. Sheep become infected with OJD bacteria when grazing. However, because the bacteria grow very slowly in the sheep's gut, it may be 2 to 5 years before sheep start to show signs of being infected. During this time, known as the 'incubation period', sheep start to shed bacteria in huge numbers in their dung, contaminating the pasture. Eventually the bacterial infection damages the intestines so badly that sheep can't absorb nutrients, show signs of illness (typically rapid weight loss) and die.

Pasture contamination

The average daily output of an infected sheep is 80 billion Johne's bacteria¹. For this reason, many farms become highly contaminated with OJD before the manager even realises they have OJD in the flock. These extremely tough bacteria survive up to a year or more in the soil² and can be carried in creeks or run-off across fences into new paddocks.

Vaccination with Gudair

Since it became available to Australian sheep producers in 2002, Gudair vaccine has been shown to reduce deaths due to OJD by 90%, as well as reducing shedding of bacteria by 90%. It also delays the onset of disease and shedding by about a year³. This has presented a viable alternative to quarantine and de-stocking, as Gudair allows sheep producers to run productive, healthy flocks, even when grazing on contaminated pastures. Moreover, because it reduces shedding, vaccination with Gudair decreases the risk of other sheep picking up OJD and helps with eradication of the disease.

Cautions for Gudair use

If accidentally injected into a hand or other body part, Gudair can cause swelling and tissue damage. All cases of accidental human exposure require medical attention and some cases require surgical treatment. It is therefore recommended that sheep are well restrained before injection and that a Sekurus™ safety vaccinator is used – its unique safety features minimise the risk of self-injection. Careful vaccination technique also prevents potential loss or injury to sheep due to injection site reactions.

Buying and selling sheep

OJD is most likely to enter a farm via infected sheep that are carrying the infection but not yet showing any visible signs of disease. Buying sheep that are already vaccinated doesn't eliminate the risk, but it does provide a level of comfort that the seller has greatly reduced the chance of sheep transferring the disease. On infected farms, sheep should be vaccinated as lambs (between 4 and 16 weeks of age; typically on the marking cradle), so that they fully benefit from the vaccine's protection. Even when selling sheep from uninfected farms, it is common to get a premium for vaccinated sheep as the purchaser can then immediately introduce them to any pasture knowing that they are already protected.

Reducing contamination of pasture for disease management

Vaccination with Gudair reduces shedding of OJD bacteria by 90%, resulting in lower pasture contamination. Over time, this reduces the chance of infection in other sheep on the farm. Studies have shown that reducing pasture contamination in this way, along with biosecurity measures such as preventing entry of strays and purchasing low risk sheep, is effective in managing ovine Johne's disease⁴.

Summary

OJD is already common in many of Australia's sheep producing regions and continues to spread. Preventing entry of OJD to a farm is difficult, as it relies on stopping stormwater entry, maintaining good fences and only introducing sheep that are free of the disease. Due to the long incubation period, many sheep are shedding OJD bacteria for years before they show any signs. Gudair-vaccinated sheep are 90% less likely to die or shed and spread OJD bacteria. For this reason, any manager who wants to control OJD, or manage the risk of OJD infecting a clean property, should consider vaccinating with Gudair.



For more information call Zoetis Veterinary Operations on 1800 814 883 or contact your local Zoetis Professional Sales Representative.

References

1. Whittington, R. J., *et al.* (2000). "Temporal patterns and quantification of excretion of *Mycobacterium avium* subsp. *paratuberculosis* in sheep with Johne's disease." *Australian Veterinary Journal* 78(1): 34-37.
2. Whittington, R. J., *et al.* (2004). "Survival and Dormancy of *Mycobacterium avium* subsp. *paratuberculosis* in the Environment." *Appl. Environ. Microbiol* 70(5): 2989.
3. Reddacliff, L., *et al.* (2006). "Efficacy of a killed vaccine for the control of paratuberculosis in Australian sheep flocks. 115 (2006) 77-90." *Veterinary Microbiology* 115: 77-90.
4. Dhand, N. K., *et al.* (2013). "Comparison of pre- and post-vaccination ovine Johne's disease prevalence using a Bayesian approach." *Preventive Veterinary Medicine* 111(1-2): 81-91.