

Ovine Johne's disease vaccination

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vaccination

Vaccination is one of the management tools available to help you to protect your sheep and goat flocks from the effects of Ovine Johne's disease (OJD).

The most cost effective strategy will depend on your OJD status, your markets and trading patterns, and the nature of your enterprise.

You should discuss the use of vaccine with your veterinary or animal health consultant and your farm business consultant.



The vaccine

Gudair[®] vaccine is the only OJD vaccine available for use in sheep and goats in Australia. The vaccine is an inactivated (killed) vaccine, meaning it does not introduce disease into vaccinated animals or flocks.

Pfizer is the sole importer of the Gudair[®] vaccine, which is manufactured in Spain. In Western Australia, the vaccine is available from veterinary practitioners approved by Pfizer.

How the vaccine works

Gudair[®] vaccine stimulates the immune system of an animal following a single dose and produces a long-lasting immunological memory.

It is important to understand that vaccinating with Gudair[®] vaccine does not prevent animals becoming infected with OJD, nor does it stop infected animals shedding OJD bacteria. However, trial results indicate that the vaccine can reduce sheep deaths from OJD by 90 percent, decrease the number of sheep found to be shedding the bacteria in their faeces by 90 percent, and reduce the overall level of excretion of bacteria by 90 percent.

Reviewed November 2006



Department of Agriculture



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Why vaccinate?

Vaccination is an important tool in reducing the level of bacterial contamination on infected properties. It is useful in the management of OJD by reducing the level of spread of bacteria within properties and between properties.

Vaccination can be used to:

- reduce the level of contamination from ewes to their lambs;
- reduce pasture contamination levels;
- reduce the level of spread between neighbouring properties;
- provide lower risk replacement sheep;
- aid in the protection of more valuable sheep from the effects of the disease.

SheepMAP-accredited flocks may consider vaccination to provide an added measure of risk reduction.

Who should vaccinate?

Consider all OJD management options, including vaccination, carefully before choosing which best suits your individual business. Factors that need to be taken into account include:

- sheep losses from OJD;
- whether your flock is infected;
- whether your neighbour is infected;
- trading implications of OJD for the business;
- the cost of the disease on the farm business compared to the cost of control measures;
- the level of risk aversion or risk taking, you or your clients require;
- the conditions of entry to shows or sales;
- the conditions of movement to other states.

You should discuss the strategic use of vaccine with your veterinary or animal health consultant and your farm business consultant.



Predicted change in annual mortality rate following vaccination (moderately infected flock)

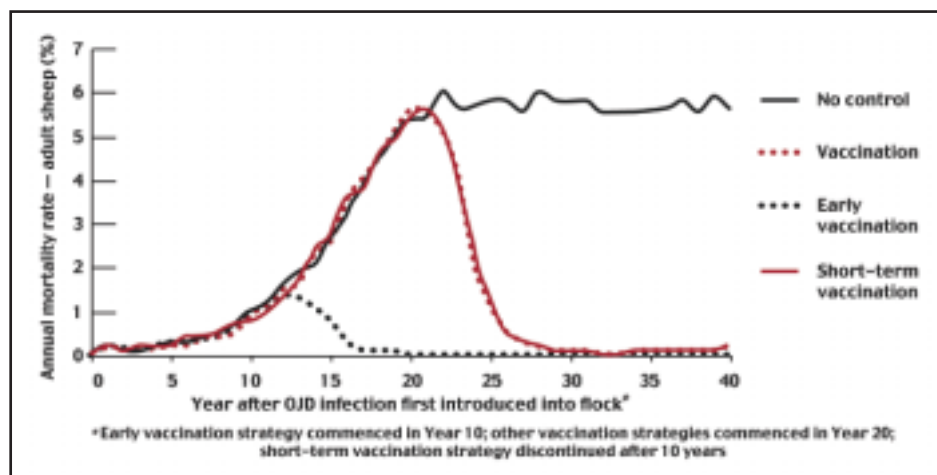


Diagram courtesy of Meat and Livestock Australia.





Vaccination program

Different owners will use different vaccination strategies. Research by Meat and Livestock Australia (MLA) has quantified the economics of vaccination. The research compared:

- no control;
- vaccination - commenced in all lambs 20 years after OJD introduced;
- early vaccination - commenced in all lambs 10 years after OJD introduced;
- short-term vaccination - commenced in all lambs 20 years after OJD introduced and continued for 10 years.

The following graphs show the death rates attributed to OJD in the various programs and the costs of OJD and the vaccination program.

Predicted change in annual costs associated with OJD following vaccination (moderately infected, 2,000 ewe, self-replacing Merino flock producing 21-micron wool)

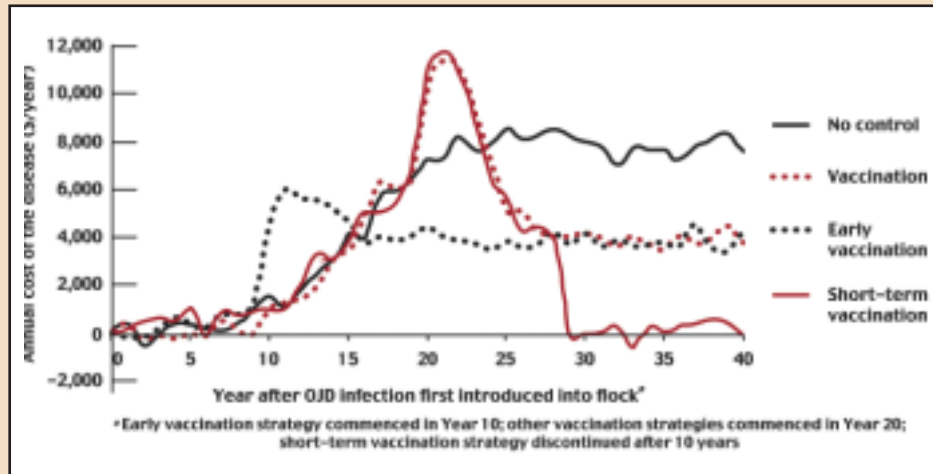
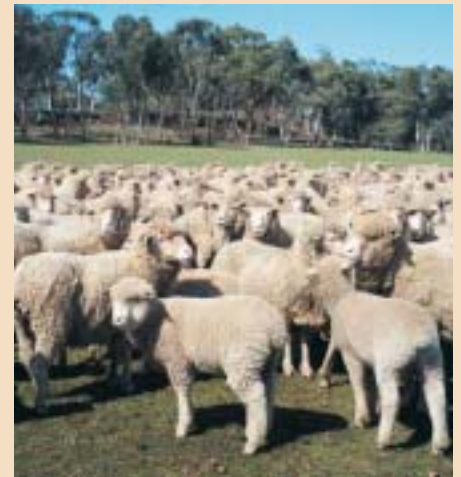


Diagram courtesy of Meat and Livestock Australia.



How to vaccinate your sheep

Pfizer advise that the Gudair[®] vaccine should be given to lambs between 4 and 16 weeks of age, or to adult sheep before exposure to OJD-contaminated pasture. Sheep require only one dose during their lifetime.

The only recommended site for vaccination is under the skin behind the ear. Gudair[®] vaccine may cause a nodule at the site of vaccination in some animals. Vaccination at this site reduces the risk of this nodule downgrading the value of the carcass at slaughter.

If sheep vaccinated as adults are to be eligible for points as Approved Vaccinates in the Animal Health Statement, they must be certified by an accredited SheepMAP veterinarian as having been vaccinated before exposure to OJD.

Economic benefit of vaccination in moderately infected flocks

Vaccination strategy	Years until vaccination profitable	Total economic benefit of vaccination		
		10 years	15 years	20 years
Annual lamb vaccination	10	\$3,250	\$12,799	\$20,961
Early vaccination	13	-\$5,234	\$5,364	\$15,271
Short-term vaccination	9	\$5,913	\$28,181	\$46,342

Diagram courtesy of Meat and Livestock Australia.



Identifying vaccinates

If vaccinated sheep are to be eligible for points as Approved Vaccinates in the Animal Health Statement, they must be identified with an Approved Vaccination Tag. An Approved Vaccination Tag is a National Flock Identification Scheme (NFIS) eartag or a year-coloured eartag (as used in Western Australia), imprinted with the Property Identification Code (PIC) or brand and a 'V' in a circle.

Is the vaccine safe to use?

The manufacturers advise that accidental self-injection with Gudair® vaccine may result in side effects and a local inflammatory reaction in some people. To reduce the risk of accidental self-injection, sheep should be suitably restrained. Read the product leaflet carefully before use. If you do accidentally inject yourself, seek medical advice immediately.

Further information

Further information about OJD can be obtained from animal health staff at your nearest Department of Agriculture office or from your veterinary or animal health consultant.



The only recommended site for vaccination is under the skin behind the ear. Gudair® vaccine may cause a nodule at the site of vaccination in some animals.

**For further information
contact your veterinary
adviser or farm management
consultant.**

**Department of Agriculture
www.agric.wa.gov.au**

**Animal Health Australia
www.aahc.com.au**

**Meat and Livestock Australia
www.mla.com.au**