



The economic benefit of feral pig control for **Sheep**

What are the benefits?

The benefit of feral animal control, is avoiding the damage that would have otherwise occurred had the control methods not been put in place. For sheep enterprises the aim is to minimise lambs lost to feral pig predation.

Reducing losses at an enterprise level is the primary reason for feral pig control, however the

benefits of thorough control can flow-on to other enterprises and subsequent seasons.

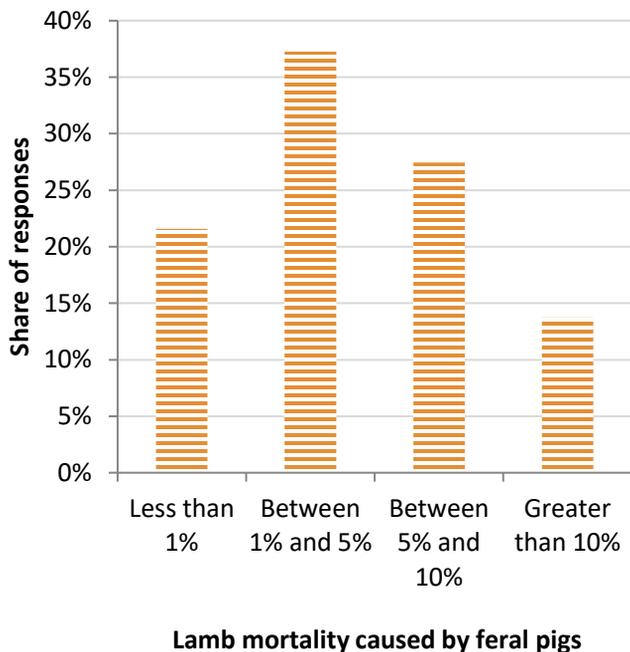
Feral pigs also pose a biosecurity risk as carriers of a range of diseases. Additionally, control of feral pigs can avoid damage to the environment and infrastructure such as fences and dams.

How much damage occurs in sheep enterprises ?

Ag Econ conducted a survey of land managers in 2020 that covered 422,000 ha across NW NSW. Survey respondents reported sheep enterprises

to receive the highest damage from feral pigs of any enterprise, with the greatest losses due to lamb predation.

Figure 1: Survey results showing estimated lambs lost to feral pigs



One survey respondent reported that in one season, he lost 60% of lambs to feral pigs.

Figure 1 shows the survey results which indicate that 65% of respondents estimated lamb losses from feral pigs to be between 1 and 10%.

Estimated lamb losses were converted to economic losses by modelling a self replacing wool enterprise, the results can also be interpreted for a meat enterprise. The study made gross margin assumptions and applied a range of values for stocking rates, weaning rates and commodity prices (wool and lamb \$/kg).

Damage caused by feral pigs in sheep enterprises is estimated to be on average \$3 / DSE

Net economic benefit

The net economic benefit is the avoided losses (estimated economic loss) multiplied by the effectiveness of control, minus the control costs. 1000 simulations of the model using different data combinations (pig damage, weaning rates, stocking rates, commodity prices, cost of the fence and control effectiveness).

Exclusion fencing was modelled at an average cost of \$13 / m. Actuals costs will vary depending on type and length of fence as well as material quality and fence site preparation requirements. A typical range is between \$8-\$18 / m.

Results showed that there could be an immediate economic net benefit of up to \$7 / DSE (Figure 2) for feral pig control in sheep enterprises. The length of the lines in the graph indicates the range of potential benefits. The range or results is influenced mostly by the size of the avoided damage. The difference in results between control methods largely came down to efficacy.

Baiting using 1080 poisoning is a low cost, highly effective control. Results indicated an average net benefit of approx \$2 / DSE.

Aerial shooting, also a highly effective method at a moderate cost, resulted in an average net benefit of \$2.50 / DSE.

Trapping was the third most cost effective control method and resulted in average net benefit of \$1.50 / DSE.

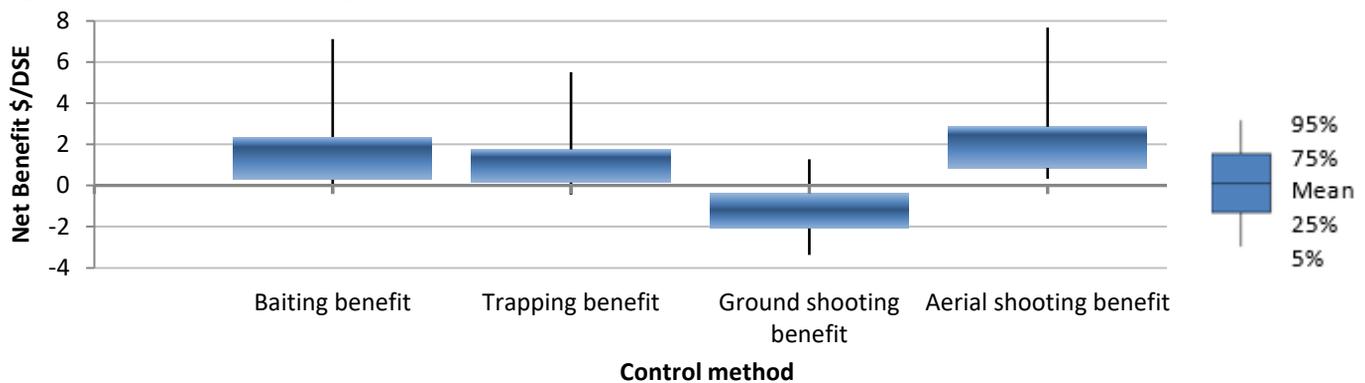
Ground shooting was the least effective method with high associated labour costs. On average the net benefit was negative \$1 / DSE indicating the avoided losses did not exceed the control cost.

The economic benefits calculated focus only on the value and benefit of lamb losses. Additional economic losses also occur with damage to pastures and hay paddocks, eating grain from feeders and damage to infrastructure such as fences.

Regular area wide management utilising a combination of control methods is recommended for effective long-term population control.

Feral pig populations have the capacity to recover quickly from control methods and other setbacks such as droughts. By keeping the population suppressed with regular area wide control programs, further losses are being avoided in other enterprises and subsequent seasons. Area wide management may reduce the cost of control options resulting in higher benefits.

Figure 2: Net benefit of feral pig control in sheep enterprises



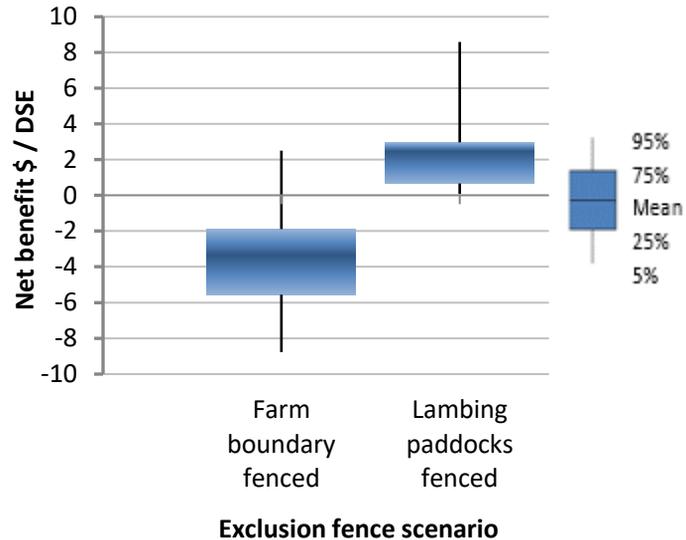
Net economic benefit – Exclusion fencing

Exclusion fencing is a non-lethal, highly effective control method. The long term nature of this control method needed an altered modelling approach. The capital costs were divided by the anticipated product life (25 years) to give an annualised cost.

Two scenarios were used; fencing the entire farm boundary and fencing only lambing paddocks. The results in Figure 3 indicated that if a similar reduction in lamb losses can be achieved, fencing the smaller areas experiencing sustained high pig pressure achieves the greatest benefits. Fencing the whole farm boundary would most likely result in a negative benefit (i.e the cost of the fencing was higher than the benefits). Fencing only the lambing paddocks returned an average net benefit of \$2.50 / DSE and a 2.5% probability of the costs outweighing the benefits. The farm area was modelled at 3500ha and the lambing paddocks were estimated to use 150km of fencing.

These results may be conservative when other enterprise benefits are considered. Also not modelled was that exclusion fencing can keep out other pests such as foxes.

Figure 3: Net benefit of exclusion fencing in sheep enterprises



If a similar result (avoided losses) can be achieved, aim to fence smaller areas. This minimises cost and maximises benefit.

The net benefits of exclusion fencing are highly sensitive to the area fenced (as can be seen in Figure 3). The range of results (vertical length of the box whisker plot) is most influenced by the size of the avoided damage (lambs lost multiplied by commodity price).

Further information:

- Findings summarised from the NW LLS funded study *Cost benefit analysis of feral pig control in North West NSW*. To read the full report visit www.lls.nsw.gov.au or www.agecon.com.au
- Contact your local LLS representative for information on current area wide management strategies ph. 1300 795 299

