

The benefit of feral pig control in **Barley & Wheat**

What are the economic 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.

Minimising yield damage at an enterprise level is the primary reason for feral pig control,

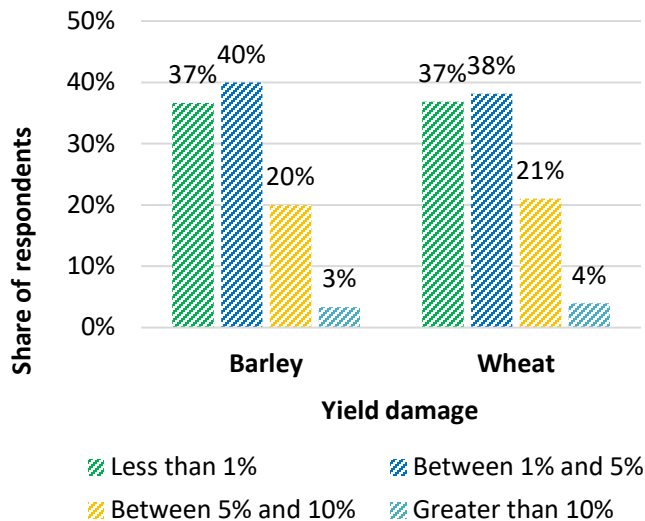
however the benefits of thorough control can flow-on to other enterprises and subsequent seasons.

Additionally, control of feral pigs can avoid damage to the environment and infrastructure such as fences and dams.

How much damage occurs in barley & wheat crops ?

In a survey of land managers conducted by Ag Econ in 2020, responses covered 422,000 ha across NW NSW. Survey respondents estimated barley and wheat sustained similar damage from feral pigs, and lower compared to other winter crops.

Figure 1: Survey results showing estimated yield loss caused by feral pigs



The highest damage from feral pigs is general found in crops that have native vegetation boundaries, particularly timber lines.

Figure 1 shows the survey results which indicate that 77% and 75% of respondents estimated yield losses from feral pigs to be under 5% for barley and wheat respectively.

Estimated yield losses are converted to economic losses by multiplying tonnes by the commodity price. This can simply be the anticipated average commodity price for the season.

This study considered ranges of historic regional yields and commodity prices, with variance also applied for yield damage experienced by feral pigs.

Economic losses were influenced largely by the extent of yield damage caused by the pigs, then the anticipated crop yield and lastly the commodity price.

Damage caused by feral pigs in barley & wheat crops is estimated to be on average \$13 & \$12 / ha respectively.

Net economic benefit

The net economic benefit is the avoided losses (estimated economic crop loss) multiplied by the effectiveness of control, minus the control costs. 1000 simulations of the model using different data combinations (pig damage, crop yield, commodity prices and control effectiveness) showed that there was an immediate economic net benefit of up to \$23 /ha (Figure 2) for feral pig control in barley & wheat. The length of the lines in the graph indicates the range of potential benefits. The highest benefits were a result of avoiding high feral pig 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 \$6 / ha.

Aerial shooting, also a highly effective method at a moderate cost, resulted in an average net benefit of \$6 / ha.

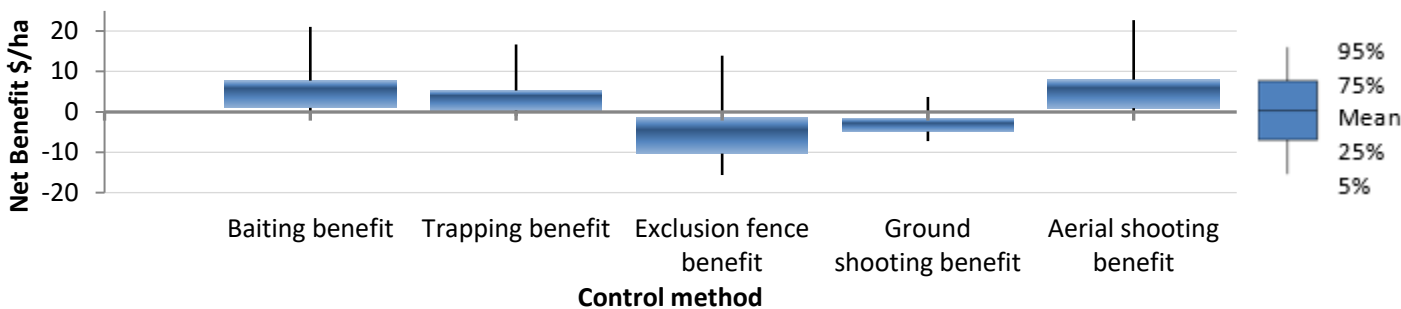
Ground shooting is the least effective method with high associated labour costs. On average the net benefit was negative \$3 / ha indicating the avoided yield loss did not exceed the control cost.

Trapping was the third most cost effective control method and resulted in average net benefit of \$4 / ha.

Exclusion fencing is a non-lethal, highly effective control method. The high upfront costs mean this method was not suited to extensive dryland cropping areas where areas may be fallow for a number of seasons. It is best used for smaller areas experiencing sustained high pig pressure or highly productive areas such as lambing paddocks. It should be noted that exclusion fencing shifts the feral pig population rather than reduce it.

Each control method has particular applications where it is the best control option. *Regular area wide management utilising a combination of control methods is recommended for effective long-term population control.* While this study considers an individual enterprise, by keeping the population suppressed, further losses are being avoided in subsequent enterprises and seasons. Area wide management may also reduce the cost of control options resulting in higher benefits.

Figure 2: Net benefit of feral pig control in wheat & barley crops



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