



## Use of fencing to protect crops and pasture from rabbits in bush remnants

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### Background

Rabbits cost Australia at least \$600 million annually in lost agricultural production and they also have a well-documented history for causing environmental damage.

In Western Australia, some areas of native vegetation on farms have been retained, particularly on sandy ridges that would otherwise be subject to wind erosion. These bush remnants are a major refuge habitat for rabbits. These rabbits can cause considerable damage to nearby pastures and crops (Figure 1).

Some measure of rabbit control can be achieved by poisoning around these bush remnants in late summer or autumn, prior to seeding. To be effective, this approach usually needs to be repeated annually. However, rabbit densities and resulting crop and pasture losses can still be unacceptably high unless any remaining rabbits are removed.

Clearing of the bush remnants to eradicate the resident rabbit populations is not an acceptable option. Not only do these remnants have intrinsic conservation value, but some are also located along protected road reserves. So what can be done in these situations?

### Rabbit-proof fencing

The use of rabbit-proof fencing is not a new approach but nowadays tends to be overlooked as a viable option by

the majority of landholders because of its relatively high initial cost. Landcare professionals are also concerned that any rabbits remaining in fenced off native bush remnants could decrease the long-term viability of these remnants.

A recent study in the south coastal region of Western Australia investigated the benefits and costs of fencing off areas of remnant vegetation to prevent rabbit damage to surrounding crops and pastures. It also examined the effects of fenced-in rabbits on the native vegetation itself. Crop losses caused by rabbits in areas adjacent to unfenced areas were also evaluated.

To be effective, the fence should be approximately 900 mm high, with the bottom 150 mm bent to lie on the ground facing towards the expected direction of future pressure from rabbits. This 'apron' will usually face away from the bush remnant (Figure 2) and can be secured with rocks or soil. Alternatively, the netting can be buried vertically at least 150 mm below ground level. If necessary, the height of the fence can be increased by attaching additional repair netting (300 mm wide) to the top of the fence.

### Benefits

Rabbit-proof fences can provide complete, long-term protection for crops and pastures adjacent to fenced bush remnants (Figures 2 and 3), and even the best poisoning campaign cannot achieve such a result. Nevertheless, to be totally effective these fences need to

be checked regularly so that any breaches are promptly repaired.

If all rabbits are completely removed from within the fenced bush refuge, then no further control action is necessary. But, if rabbits persist, even at low numbers, remedial action will be needed to make sure that the residual rabbits do not affect the viability of the bush remnants.

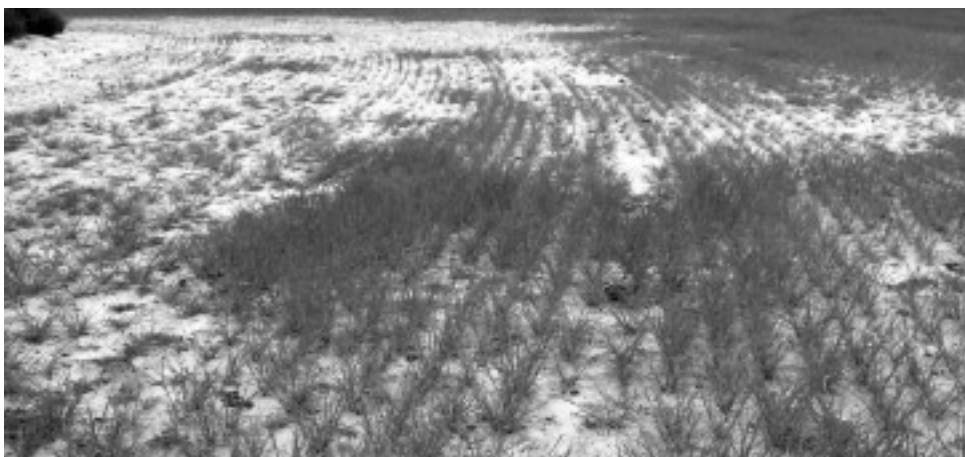


Figure 1. Barley crop damaged by rabbits living in the adjacent remnant bush

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Figure 2. Remnant bush has been fenced to protect the newly sown crop in the adjoining paddock

Another advantage of fencing-off a bush remnant is that stock are excluded, thereby reducing any damage to the native vegetation and hence preventing any future soil erosion.

## Costs

A one kilometre long rabbit-proof fence would cost approximately \$5000 to erect (\$4000 for materials plus \$1000 for labour). However, for high value crops such as canola, these costs could be recovered within two seasons depending on the amount of fencing needed, and on crop returns. For crops of a lesser value (such as lupins and barley) the costs of fencing can be defrayed over the life of the fence. There are also tax benefits to landholders (e.g. depreciation). If well maintained, most fences should last for at least 15 years.



Figure 3. A well constructed rabbit-proof fence protects this canola crop from rabbits in the bush refuge (right of photo)

## Effects on remnant vegetation

Even low numbers of residual rabbits in the fenced-off bush will lead to reduced abundance of sedges and native grasses, and of seedlings and regenerating plants. The effect of confining rabbits over the medium to long term will ultimately be detrimental to the overall 'health' of the native vegetation, affecting both the abundance and biomass of many plant species. Therefore, measures need to be taken to remove **all** remaining rabbits.

Poison baiting with 1080 is a good technique for removing remaining rabbits. This may be more effective because the rabbits are confined within the bush remnant, particularly if they are targeted when available food is in short supply during the summer and autumn. *However, the best approach is to remove all rabbits **before** totally enclosing a bush remnant.* This may require a combination of 1080-baiting, shooting and possibly live cage trapping.

## Other considerations

If all rabbits are not totally removed from the fenced-off area, a regular poisoning program will be needed to prevent long-term damage to the bush remnants. If this becomes necessary it may well create a situation that may be no better than the use of routine rabbit control techniques without a fence.

The use of bait stations may help with controlling the rabbits within the bush refuge, where the rabbit-proof fencing prevents stock access. Bait stations can reduce the potential risks to non-target species. However, bait stations should not be left permanently loaded with poison bait, as this is likely to increase the development of resistance to the poison being used.

In some situations the fence may also interfere with the movement of other animals (e.g. kangaroos and wallabies) whose welfare and conservation would need to be considered. The merits of each case should therefore be assessed on an individual basis.

## Further information

For further information contact the Vertebrate Pest Research Section, Department of Agriculture, Forresterfield, telephone (08) 9366 2300.

## See also Farmnotes:

Options for rabbit control (Agdex 671).

Landholder use of 1080 One shot rabbit bait (Agdex 671).

Rabbit warren and harbourage destruction (Agdex 671).

Bait stations and rabbit control (Agdex 671).

## Acknowledgments

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