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The Australian Rangeland Society

THE RABBIT: NOT BEATEN, JUST UNDERGROUND

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INTRODUCTION

Rabbit calicivirus disease (RCD) has been very effective, but the rabbit is still a big problem. Rangeland managers now have a vital opportunity. Applied control now could keep rabbit numbers low for decades.

Rabbits have been damaging rangeland vegetation for nearly 150 years, changing the pasture composition and attacking seedlings of longer-lived plants. In many areas pastures are now dominated by introduced annuals, often less palatable and less drought-resistant than the plants they have replaced. The effects on the trees and shrubs that which dominate the vegetation may be less obvious. Some may survive for 150 to 300 years, but when the mature plants die, there may be no younger plants to replace them (Crisp 1978). Rabbits affect the pasture available to livestock, and the survival of native vegetation and wildlife.

RCD AND VEGETATION REGENERATION

RCD initially caused mortalities of 80 to 97% (Cooke 1999) in the drier areas of Australia. In the Flinders Ranges, rabbit mortalities were still over 90% three years after RCD became established (Cooke pers. comm.). RCD has already allowed the recovery of vegetation in many areas. Palatable native pasture species have clearly increased on RCD study sites throughout Australia since 1996 (Sandell and Start 1999, Neave 1999). In a few areas, perennial seedlings have done well. However, vegetation recovery has been variable, due partly to the patchy effects of the virus and partly to the slow and erratic nature of regeneration in the arid areas. Even without grazing by rabbits or other herbivores, successful germination of perennials only occurs every five to sixty years, depending on plant species, rainfall and many other factors.

RESIDUAL RABBIT POPULATIONS

With RCD, as with any rabbit control method, the question is not how many rabbits you kill, but how many rabbits are left. Rabbits are still the most common small mammals in Australia (Cooke pers. comm.), and residual rabbit populations are generally still high enough to cause significant damage.

Even when rabbits are sparse enough to be almost invisible, they can still affect plant regeneration. Only 1 rabbit per hectare can prevent *Acacia* seedlings from regenerating (Lange and Graham 1983). Less than 1 rabbit/km² can partially suppress the regeneration of *Acacia* seedlings and seed set in *Stipa* (Henzell pers. comm.). Furthermore, rabbits can still kill *Acacia* seedlings after 5 years (Henzell pers. comm.) and *Hakea* seedlings after 15 years (Cooke pers. comm.) Obviously, in most situations, rabbit numbers will have to be kept very low for many years to allow rangeland vegetation to recover.

Rabbit populations will inevitably recover from RCD to some extent, as they have recovered from myxomatosis. While myxomatosis is still very useful, the mortality of 40-80% is much lower than during the initial outbreaks in 1951, when up to 99% of rabbits died in some areas (Fenner and Fantini 1999). Rabbits have developed resistance, and the myxoma virus itself has changed. As yet there is no evidence of resistance to RCD, although numbers are increasing in some higher-rainfall areas.

WHERE NOW?

Rangeland regeneration is such a chancy thing that even a slight increase in rabbit numbers could have serious consequences. Despite the success of RCD, it will become less effective as time goes on, and by itself it will not keep rabbit numbers low enough.

For many overstretched land managers RCD has provided a welcome respite from rabbit damage. To get the most out of RCD, though, we should regard it as the opportunity largely missed with myxomatosis; the chance to attack rabbits while they are down and reduce their numbers for as long as possible.

Individual landholder's efforts are essential, but groups of land managers are even more effective, particularly if there is appropriate support from other agencies. Ripping rabbit warrens on several adjacent properties will give a larger area of control, and rabbits will take much longer to re-invade from the edges. Landholders can save money and time by sharing equipment and labour, or by attracting contractors to the area. Last but not least, enthusiastic neighbours can fire each other up, and learn from each other's ideas, mistakes, and successes.

The relief provided by RCD will not last forever. We should take advantage of this opportunity, and make sure that the rabbit does not dominate this century as it did the last.

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