New strategies in the rabbit war

When 24 European rabbits were liberated on a Victorian Western District property in 1859, with instructions to go forth and multiply, they succeeded unimaginably well. With few predators, and capable of producing seven or more litters a year, they spread with amazing rapidity.

Rabbits soon became a plague of the first magnitude. A census in 1868 recorded 223 per hectare (at Warrion Hills, Vic.). Many paddocks were reduced to bare earth.

Farmers trapped and poisoned millions of animals, but they could not compete with the rabbit's fecundity. These quiet achievers are still Australia's number one feral pest, causing widespread environmental damage and economic loss.

In 1950, CSIRO researchers released the myxoma virus among rabbit populations at Gunbower and Rutherglen, Vic., and Corowa, N.S.W. Carried by mosquitoes, myxomatosis rapidly spread throughout the rabbit's range. And, lacking any genetic resistance to this South American disease, rabbits succumbed in droves.

In the early years, scientists estimated that the virus killed at least 99% of the rabbits that it infected. Rabbit numbers declined dramatically, and pasture, crop, and livestock production improved immediately. Figures from the Bureau of Agricultural Economics show that, comparing 5-year periods before and after the introduction of myxomatosis, greasy wool production increased by 26% and cattle numbers by 10%, despite a slaughter rate for both sheep and cattle some 25% higher.

Unfortunately, within a decade of the virus's release, rabbits had acquired a degree of genetic resistance to the disease. Surviving rabbits tended to pass on resistance to their offspring.

In addition, the acquired immunity of the survivors defended them from repeated infection; a degree of immunity could also be transferred directly to newborn kittens by means of antibodies in their mothers' milk. Intriguingly, resistance also seems to be conferred on young rabbits by some factor in their father's semen (see the box on page 13).

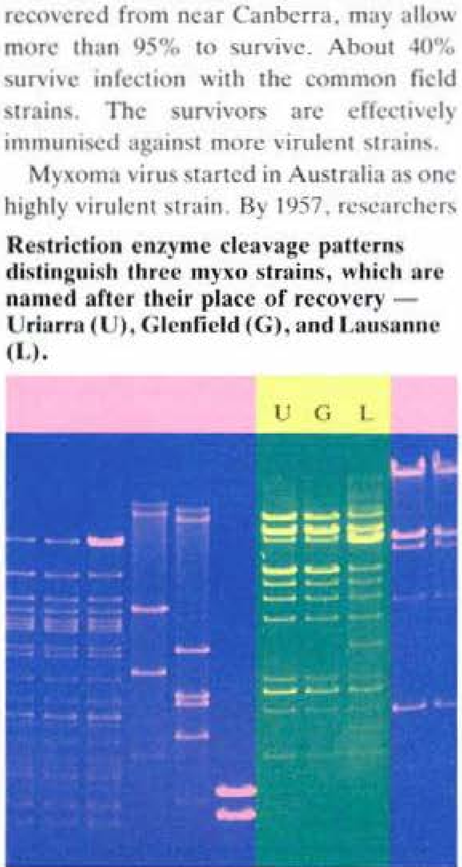
Virus ecology

Even more important than the increased resistance of rabbits is the reduced virulence of some strains of the virus. It is to the virus's benefit that its attack on the rabbits be not too vicious. If it kills every rabbit it infects it will soon run out of hosts.

The upshot is that, instead of 1%, or less, of rabbits surviving an infection, some myxoma strains, like the Uriarra one recovered from near Canberra, may allow more than 95% to survive. About 40% survive infection with the common field strains. The survivors are effectively immunised against more virulent strains.

Myxoma virus started in Australia as one highly virulent strain. By 1957, researchers had retrieved and identified 92 wild strains from field collections. Probably a few hundred strains exist by now, all with different degrees of virulence.

Restriction enzyme cleavage patterns distinguish three myxo strains, which are named after their place of recovery — Uriarra (U), Glenfield (G), and Lausanne (L).



However, it seems that the predominant field strains have remained those of middle-order virulence, and a more or less static balance between host and virus has been struck. Myxomatosis epidemics now wax and wane from year to year, but there is evidence of a trend towards milder episodes.

Myxo still works

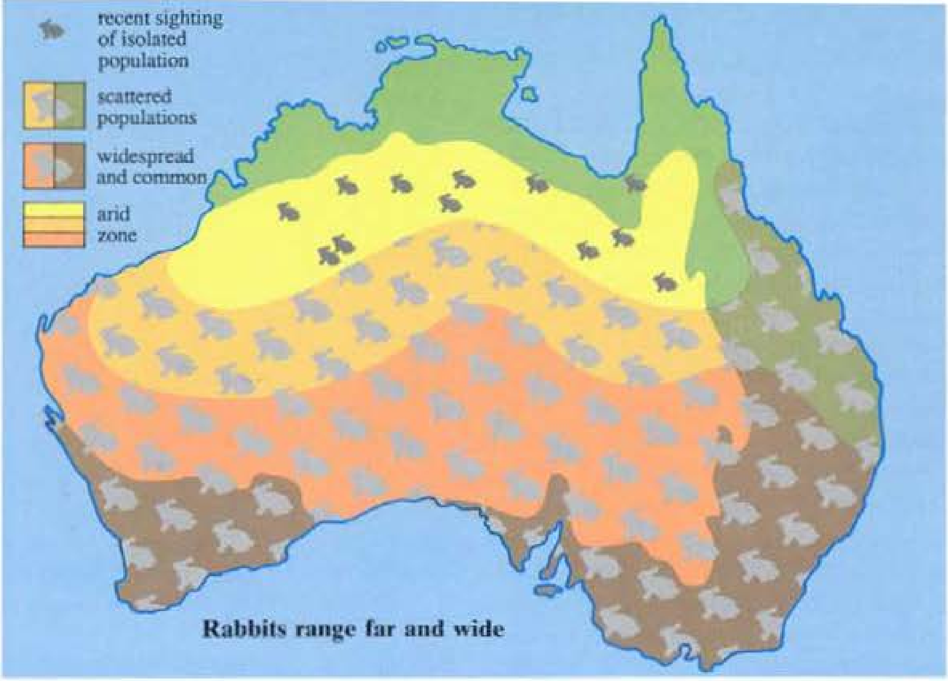
When it was realised that some areas lacked efficient insect vectors, Dr Bill Sobey and his CSIRO colleagues in 1968 released the European rabbit flea (the principal means of spread of myxomatosis in Britain) as a supplementary vector. Unlike mosquitoes, which rely on wet weather, the flea can breed without the need for free water. The flea has increased the effectiveness of myxomatosis in some regions in some seasons.

However, it does need a degree of moisture in the soil surrounding the burrow, and this has restricted its distribution to areas with annual rainfall of more than 250 mm. To try to overcome this problem, Dr Brian Cooke of the South Australian Department of Agriculture is organising a search for an arid-adapted rabbit flea from the rabbit's original home, Spain and Morocco.

Another way to try to counteract the reduced effectiveness of myxomatosis is to reintroduce highly virulent strains into the field. While authorities in a number of States have for many years provided farmers with highly virulent strains, the usefulness of their release has not been convincingly demonstrated. The explanation seems to be that the milder field strains endemic to the area spread more easily from rabbit to rabbit, and provide immunity against the more savage virus.

In one experiment, Mr Ian Parer of the CSIRO Division of Wildlife and Rangelands Research introduced the highly virulent Lausanne strain into two populations of rabbits at Urana, N.S.W. After 4 years, the number of adults hadn't declined.

On the other hand, another experiment undertaken by Mr Parer refutes the suggestion that myxomatosis is no longer working. Mr Parer, and his colleagues Dr Dorothy Conolly and Dr Bill Sobey, in 1978 began releasing rabbit fleas coated with a very attenuated strain of myxoma virus into half of a population of rabbits (which was confined by rabbit-proof fencing to part of a 280-ha study site). Within 2 years, the



Rabbits range far and wide

Rabbits are now most troublesome in the arid zone. Here, myxomatosis is infrequent, and conventional control methods appear too expensive.

immunised rabbits increased their numbers by ten-fold. In comparison, the neighbouring half that was exposed to the local field strain experienced only low annual fluctuations in numbers.

Molecular tools

However, in the long term, it appears that selection for disease resistance and the emergence of non-virulent virus strains may render myxomatosis ineffective, unless science intervenes.

A possible end point of this process is the situation that obtains in the homeland of myxomatosis, South America. There, native rabbits are so in harmony with the virus that few of them become seriously ill when infected.

This is where Dr Steven Robbins and his newly formed virus ecology research group (at the Division of Wildlife and Rangelands Research) come in. Outbreaks of myxomatosis can be markedly patchy, and one of the first goals of the group, which is funded by the Australian Wool Corporation, is to find out why this is so.

By identifying the factors that open and close 'windows' of susceptibility, the scientists may develop the capacity to beat Nature to the punch, and time the release of new lethal strains so that they can compete successfully against weaker field strains.

At present we have no information on the presence of weak strains that may be circulating in the field without producing obvious outbreaks of disease. Diagnosis of myxomatosis depends on overt physical signs (nasal discharge, protuberant swellings, and eye and body lesions) — but the absence of visible symptoms does not necessarily indicate absence of the virus.

Rabbits aplenty (Yathong, N.S.W.).

Dr Robbins aims at developing an antibody test kit that farmers could use to test rabbits for previous myxomatosis infection. With this knowledge, they might be able to optimise the release of virulent strains for type and timing.

Other molecular tools to identify different virus strains and to provide 'markers' to follow the distribution and spread of particular strains are needed. Finding the answer to the puzzle of how — at the molecular level — virus and host adapt to each other would also be invaluable.

Furthermore, scientists lack clear understanding of why rabbits succumb to the disease at all. Replication of the virus in critical organs doesn't seem to be the culprit, and a virus's lethality doesn't appear to have much to do with its abundance in tissues (its titre).

These knowledge gaps are serious drawbacks to any attempt to enhance the impact of the virus on the animals, or improve the efficiency with which the virus's vectors — mosquitoes and fleas — spread the disease.

An additional impediment to the effective targeting of myxomatosis is our poor understanding of the effect of environmen-

With and without rabbits — the difference that rabbit-proof fencing makes (Yathong, N.S.W.).

Factor X in rabbit sperm

While Dr Bill Sobey and Miss Dorothy Conolly, of the Division of Wildlife and Rangelands Research, were testing the virulence of particular myxomatosis strains on a laboratory population of rabbits, they were confronted with the unexpected. After a buck that had recovered from myxomatosis was mated, the resulting kittens showed elevated resistance to the disease.

The resistance acquired this way is not genetic. For even the doe's subsequent litters — born from matings with unrelated non-resistant bucks — show that same resistance. (The doe herself had had no contact with myxomatosis.)

Moreover, the resistance factor declined with the age of the buck, and could be nullified completely if the buck had been immunized against a benign virus disease, fibroma (fibroma is to myxomatosis what cowpox is to smallpox).

The degree of survival advantage conferred by the unknown factor was greatest where the sire and his offspring were challenged with the same strain of virus.

All this is enough for Dr Sobey and Miss Conolly to suggest that the effect may be due to the transmission of a viral component in the sire's semen.

Myxomatosis: non-genetic aspects of resistance to myxomatosis in rabbits, *Oryctolagus cuniculus*. W.R. Sobey and D. Conolly. *Australian Wildlife Research*, 1986, **13**, 177–87.

Impact of rabbits in the arid zone

A difficulty in assessing the impact of rabbits on the arid zone's vegetation is that the rabbit was not the first introduced herbivore to graze it. Sheep and cattle beat them to it by at least 20 years.

But it is clear that many parts of the arid zone have been severely damaged by overgrazing, and rabbits have certainly contributed to this excess grazing pressure. Studies have shown that 20 rabbits consume about the same plant biomass as one sheep. The arid zone of New South Wales currently carries about 7 million sheep — that's one sheep to 5 ha — yet, at times of rabbit plagues, rabbits can reach numbers of 23–35 per ha (as they did in 1974/75 in the north-east of South Australia).

Such rabbit numbers have enormous potential for doing damage. Even on developed pasture (under favourable climatic conditions), Dr Ken Myers and his CSIRO colleagues found that rabbits at a density of 37 per ha could turn a ryegrass and clover sward into a weed-ridden patch dominated by Paterson's curse.

It's the rabbit's predilection for the most palatable species that gives rise to concern. Especially vulnerable are young grasses and many perennial forbs such as *Swainsona* sp., which are green in summer when most other herbs are dry. A variety of experimental studies have demonstrated the major impact of rabbits in the arid zone.

Dr Don Wood of the Division of Wildlife and Rangelands Research and Dr John Leigh of the Division of Plant Industry erected rabbit-proof fencing around trial plots in the Yathong Nature Reserve (three resumed grazing properties in western New South Wales), and compared these ungrazed plots with grazed ones.

Over 6 years they found that rabbits grazed grasses in preference to other plants; their data also showed that grazing intensity dropped off dramatically as distance from the warren increased (see the graph). In dry times, warrens can be seen from far off because of the total lack of surrounding vegetation; after rains they can be identified by a dense cover of weeds.

After areas 1 m square around the warrens were fenced off, biomass production on the plot was measured at a phenomenal 1·3 kg in the fourth year. Dominant species changed from 'weedy' forbs to grasses.

The scientists found that the proportion of unpalatable species close to warrens (within 25 m) was as high as 86%, whereas at more distant sites (200–300 m) the corresponding figure was only 20%.

Surprisingly, observations suggest that such a distribution of species surrounding the warren applies also to abandoned warrens in ungrazed plots. The scientists believe this could be because rabbits disturb the soil so much — in digging their warrens and scratching for plant roots to eat — and that it may take many years for the effect of these disturbances to be overcome.

Rabbits seek after roots at times because these contain more moisture than the above-ground parts: in the absence of drinking water (particularly during hot, dry summers and droughts), rabbits require food of at least 55% water content. If the root damage doesn't kill the plant outright, it certainly reduces its vigour.

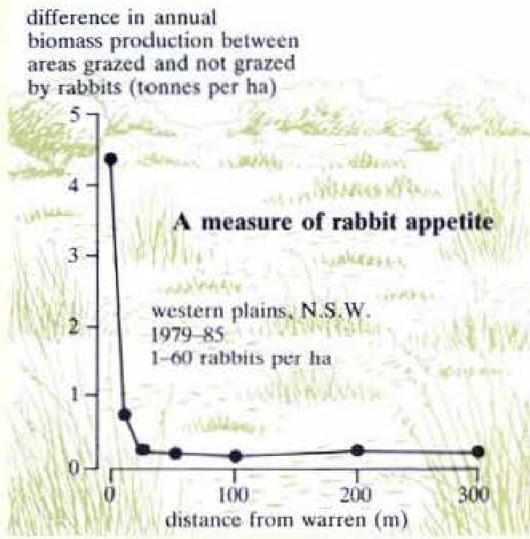
In the same search for moisture, rabbits also seek out woody perennial shrubs and small trees, and chew the bark to reach the juicy tissue beneath. And sometimes they climb up trees — they have been observed 5 m above the ground — in search of green leaves and shoots. With their sharp chisel-like teeth, they often ring-bark a plant, leading to its death.

Seedlings of woody shrubs and trees are very palatable to rabbits, and keenly sought after. This feeding trait is having an insidious effect on the vegetation of the arid zone, preventing regeneration of the dominant plants there. The lack of regeneration of old-man bluebush, saltbush, mulga, western myall, native pine, and the like is not readily apparent because these plants can live 150–300 years. After rains, the grasses and forbs spring back to life, and the absence of shrub and tree seedlings passes unnoticed.

Yet studies on the Koonamore Vegetation Reserve (400 ha of sandy arid grazing land in South Australia) have revealed abundant regeneration of *Acacia* species after rabbits were eradicated from the Reserve in the early 1970s. Seedlings of mulga (*A. aneura*) survived for the first time since the Reserve was established in 1925.

Mr Barney Foran of the Central Australian Laboratory of the Division of Wildlife and Rangelands Research has witnessed witchetty bush (*Acacia kempeana*) regenerate from zero to 200 plants per ha on plots near Alice Springs where rabbits have been excluded for 5 years. No trees or shrubs have regenerated on plots grazed by rabbits.

While grazed areas steadily degraded under a rabbit population of 600 per square kilometre (as censused by spotlight), the density and diversity of plants in the ungrazed areas improved greatly over the period of the experiment.



Even 300 m from the warren, the presence of rabbits could be detected by a diminished amount of vegetation.

Nevertheless, Mr Foran observed that the major changes from year to year were controlled by the timing and amount of rainfall. This can make it difficult to distinguish site deterioration from the effects of climate.

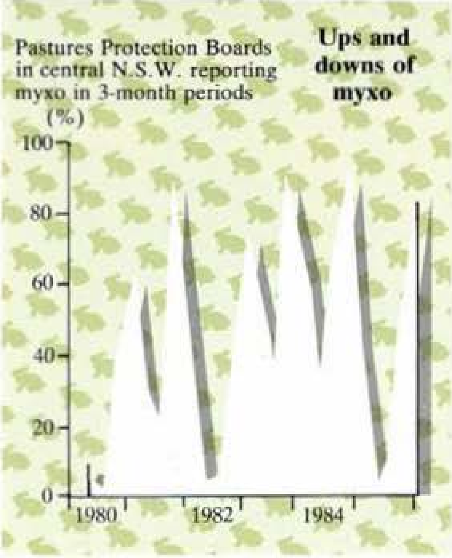
Much of the landscape shows degradation — soil erosion, weeds, and lack of trees — but apportioning the major blame to rabbits, horses, or cattle is a difficult task. Mr Foran is conducting a long-term experiment with three types of plots — totally ungrazed, grazed only by rabbits, and left open to all herbivores. It will take time to sort out the differences; so far only one out of six sites has clearly benefited from the absence of rabbits.

However, evidence suggests that rabbits take advantage of the grazing behaviour of cattle. When rank vegetation is eaten out, short green shoots become plentiful. Rabbits favour the succulent shoots, and in so doing preserve the ground cover as a patchwork of 'rabbit lawns'. In Simpson Gap National Park, where cattle have been excluded for 16 years, rabbits have largely disappeared.

The impact of rabbits and cattle on an arid calcareous shrubby grassland in central Australia. B.D. Foran. *Vegetatio*, 1986, **66**, 49–59.

The rabbit (*Oryctolagus cuniculus* L.) as an element in the arid biome of Australia. D.H. Wood. In 'Arid Australia', eds. H.G. Cogger and E.E. Cameron. (Australian Museum : Sydney 1984.)

The production and ecological costs of rabbit grazing. D.H. Wood, J.H. Leigh, and B.D. Foran. *Proceedings, Australian Vertebrate Pest Control Conference, Coolangatta, 1987.*



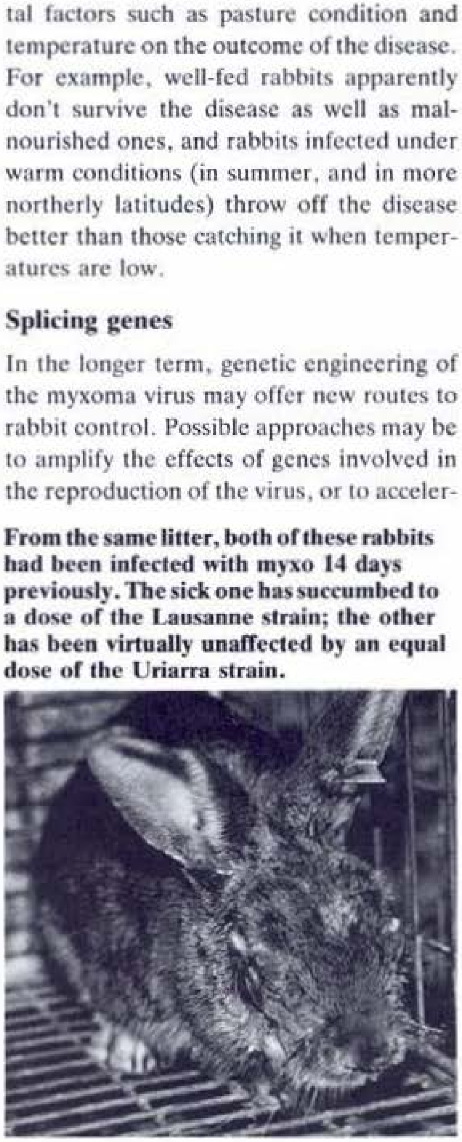
Like many epidemic diseases, the incidence of myxomatosis fluctuates considerably.

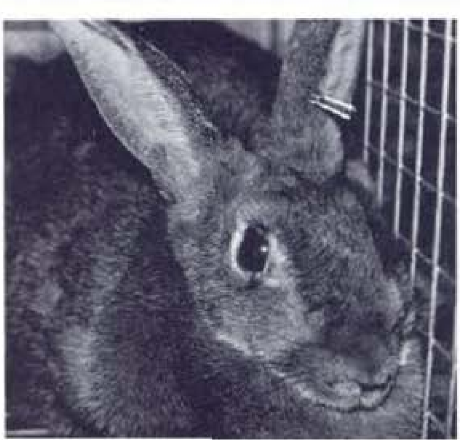
tal factors such as pasture condition and temperature on the outcome of the disease. For example, well-fed rabbits apparently don't survive the disease as well as malnourished ones, and rabbits infected under warm conditions (in summer, and in more northerly latitudes) throw off the disease better than those catching it when temperatures are low.

Splicing genes

In the longer term, genetic engineering of the myxoma virus may offer new routes to rabbit control. Possible approaches may be to amplify the effects of genes involved in the reproduction of the virus, or to accelerate the onset of the disease so that the rabbit's immune system could not cope. Such measures would require the use of modern techniques of molecular biology (including recombinant DNA technology) to characterise the genome of the myxoma virus at the molecular level.

From the same litter, both of these rabbits had been infected with myxo 14 days previously. The sick one has succumbed to a dose of the Lausanne strain; the other has been virtually unaffected by an equal dose of the Uriarra strain.





Later, it may prove possible to isolate a gene for some bacterial toxin and splice this into the genetic blueprint of the myxoma virus. Researchers in the World Health Organisation have already done something similar by engineering novel vaccinia viruses (types of pox viruses) that express foreign genes.

The WHO researchers have demonstrated that live vaccinia vaccines can be constructed that express — all at once — genes encoding the protective antigens of hepatitis B, rabies, and influenza. Experimental animals infected with such recombinant vaccinia viruses have been shown to be simultaneously protected against these infections.

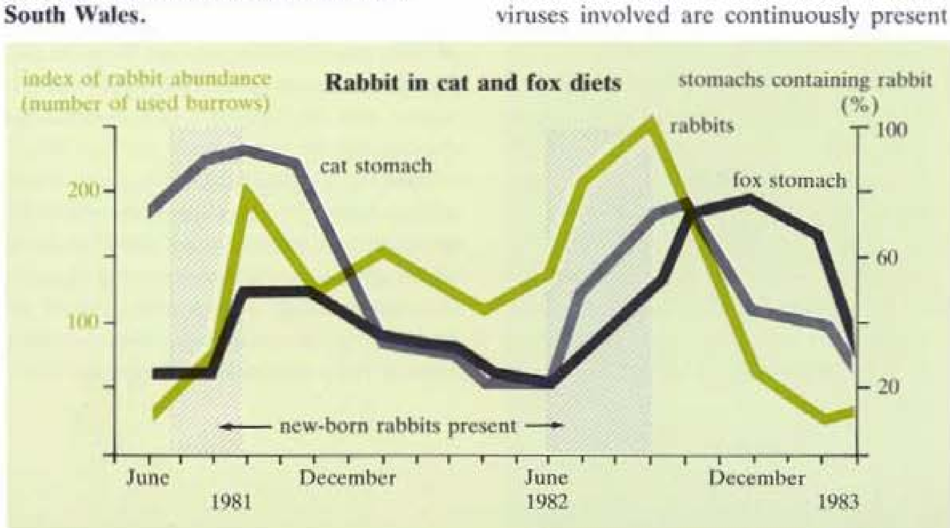
Myxoma virus is also a pox virus, so the way appears open for the similar manipulation of the myxoma virus genome and the construction of recombinant virus strains.

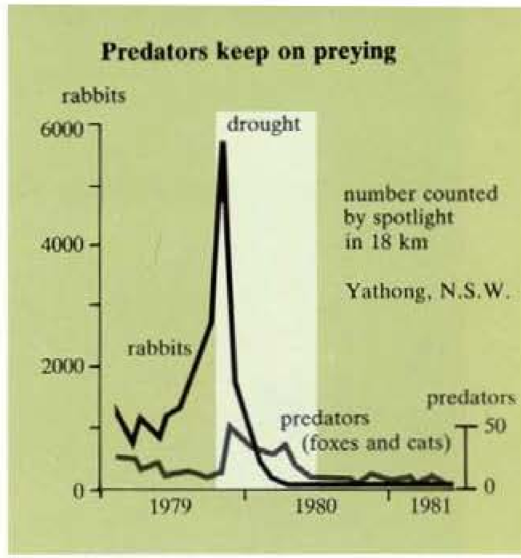
Rather than insert a toxin-producing gene in the myxoma virus, a more humane approach may involve infectious sterility: equipping the virus with a gene that would turn on the synthesis in the rabbit of a natural contraceptive. For example, production of certain peptide hormones would make the rabbits unable to breed, so they would simply die out naturally.

Eliminate the remnants

While these intriguing possibilities lie in the future, what can be done right now to keep rabbits in check? The clear answer is to do what farmers who value their land have always done — lay poison, rip or explode warrens, shoot, trap, and in every way make life difficult for rabbit populations.

Rabbit forms the staple diet of both cats and foxes, but it's mainly eaten during the rabbit breeding season. Foxes mostly eat the adults, while cats prefer young rabbits. Data were collected in semi-arid New South Wales.





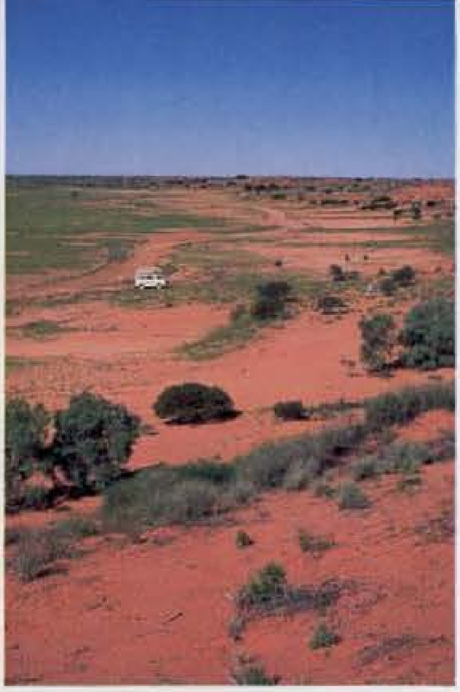
After rabbit numbers collapsed due to drought, predators prevented the population from recovering.

On prime agricultural land, the worth of such action is plainly evident. In vast tracts of arid-zone country, though, the low productivity of the land means that taking effective steps towards eliminating rabbits may not be financially practical, or even possible.

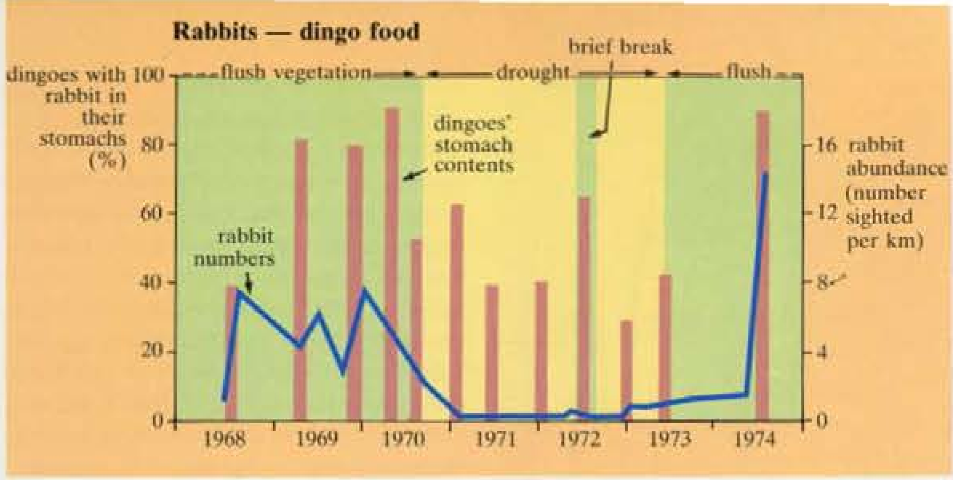
The difficulty is compounded by the infrequent appearance of myxomatosis in arid-zone rabbits. It appears in good years when rabbit numbers are high, but is disappointingly absent for most of the time. Possibly this is because mosquitoes are available to spread the disease only in wet years; dry conditions don't suit rabbit fleas either.

Myxomatosis normally occurs in summer in the arid zone and the higher temperatures assist rabbits to survive. Because of the limited effectiveness of the disease in arid areas, and since conventional control measures seem uneconomic, CSIRO is now focusing its myxomatosis research effort on low-rainfall areas.

The vertebrate pest research centre in the Division of Wildlife and Rangelands Research — supported by sheep-, wheat-, and cattle-farmers — is gathering information on the incidence and extent of myxomatosis outbreaks in the arid zone to get a clearer picture of the epidemiology of the disease in such environments. In particular, scientists want to know whether the viruses involved are continuously present



Arid-zone rabbit country, and the site of a CSIRO field experiment near Innamincka, S.A.



Even when rabbits were scarce (during drought), at least one in three dingoes still managed to eat rabbit. Data were collected in central Australia.

in the arid areas or are transported in from moister areas — important information for optimising strategically timed releases of virulent strains.

Praise for predators

The CSIRO research has already quantified many of the 'hidden' losses exacted by rabbits in the arid zone — the elimination of plant species, prevention of regeneration, and magnification of water and wind erosion. In fact, reckoning the cost of these effects, together with that of the obvious grazing competition with sheep and cattle,

Does rabbit control pay in the outback?

Ecologically, rabbits inflict serious damage on the arid zone. Not only does the vegetation suffer, as the box on page 14 relates, but native fauna lose out as well. For example, two small marsupials, a bandicoot (*Macrotis lagotis*) and a wallaby (*Bettongia lesueur*), disappeared from large areas soon after the rabbit moved in and took over their burrows.

But economically, rabbits are generally seen by the arid-zone grazier as a problem to live with — the financial cost in eradicating rabbits from huge tracts of dry land (unlike prime agricultural land) appears too great. Yet is this conclusion justified?

Mr Barney Foran, of the Central Australian Laboratory of the CSIRO Division of Wildlife and Rangelands Research, and two consultants to the Conservation Commission of the Northern Territory, Mr William Low and Mr Bruce Strong, have examined the question.

They assessed the effectiveness and cost of poisoning, ripping warrens, fumigating, and releasing rabbit fleas, in an area near Alice Springs. All these methods, except the rabbit flea release, worked. Moreover, examination of plots protected by rabbit-proof fencing showed an improvement of 300 kg of plant cover per ha in the following season compared with plots protected only from cattle. The comparison showed rabbits removed 30% of the available vegetation.

Mr Foran and colleagues calculate that this loss equates to a reduction in cattle-carrying capacity of three beasts per sq. km. These three could produce a liveweight gain of 300 kg per year, giving a net return of $150.

But on the other side of the ledger, poisoning would cost $357 per sq. km and ripping then fumigating would cost $571. The latter technique reduced mean rabbit populations (as counted by spotlight) to four rabbits per km, as against 20 for untreated areas.

To rip and fumigate the 630 sq. km of rabbit habitat on the cattle station studied (one-fifth of the whole area) would, at that rate, cost $350 000.

Depending on interest rates and taxation arrangements, that expenditure would take more than 6 years to recoup. Mr Foran believes few station managers would see that as an attractive proposition; he believes that, to win followers, rabbit-control methods must be devised that permit their cost to be repaid in the following season. That is, the methods should cost not much more than $150 per sq. km.

Dr Don Wood of the Division has performed a similar analysis for sheep country in the far north-west of New South Wales. He finds that rabbit control in this country can pay off even in the first year, assuming the landholder owns a tractor and can employ a farm-hand to do the ripping.

And the long-term benefits are so compelling (after 10 years more than $20 000 per year for an additional 1000 head of sheep able to be carried following ripping) that hard-headed owners should show no hesitation in adopting anti-rabbit measures even at the present cost of ripping.

In spring 1976 Dr Wood arranged for all the large inhabited warrens on 23 sq. km of sheep station to be ripped. Repeating the process twice a year for 2 years progressively reduced the number of active warrens (and rabbits) in this sandy country until only 13% of the original number remained. (In a similar untreated area, numbers stayed about the same.)

Assuming an average nine rabbits per warren, Dr Wood calculates that a landholder could expect to run one extra sheep for every 2·5 warrens destroyed. On present wool prices ($6–7 per kg), one sheep is going to provide an annual net return of more than $20, whereas the cost of paying someone to rip 2·5 warrens (less than 2 hours' work) is much less than that (about $12).

If the calculation is extended over a 10-year period, the profitability of the enterprise is clearly sufficient to pay for the purchase and maintenance of a tractor. And after that's done, the virtual eradication of rabbits translates to long-term benefits (encompassing ecological ones as well) at next to no cost.

The response of rabbit populations and vegetation to rabbit control on a calcareous shrubby grassland in central Australia. B.D. Foran, W.A. Low, and B.W. Strong. *Australian Wildlife Research*, 1985, **12**, 237–47.

Effectiveness and economics of destruction of rabbit warrens in sandy soils by ripping. D.H. Wood. *Australian Rangelands Journal*, 1985, **7**, 122–9.

Dingo, fox, and feral cat — predators that can keep rabbit numbers down.

allows us to say that spending effort on rabbit destruction is amply rewarding (see the box on page 16).

One of the big factors, previously unappreciated, contributing to the pay-off is the role that predators — feral cats, foxes, dingoes, and eagles — play in keeping rabbit numbers down. First the rabbit population has to crash due to drought, myxomatosis, or man-imposed efforts, but once this has happened predators can exert sufficient pressure to prevent substantial rises in rabbit numbers for 2–3 years.

Mr Parer found in 1968 and 1969 that, at Urana, predators were considerably more important than myxomatosis in killing young rabbits. During the springtime emergence of kittens from their burrows, he counted one predator to every 15 adult rabbits. The death rate among the kittens was very high, with only about one-quarter surviving for more than 90 days.

During the period 1970 to 1974, Dr Don Wood of the Division studied a rabbit population in far north-western New South Wales and found that, largely through predation, mortality of rabbits under 9 months of age was never less than 88% (in one year it reached 99·8%). Depending on the season, between one-quarter and three-quarters of the kittens were eaten by foxes, which dug through the sandy soil and took them from their nests.

Myxomatosis claimed only 7–15% in wet years and none in dry years. Dr Wood assumed that it was the action of the foxes that was keeping the rabbit population relatively stable during the 4 years it was observed.

In 1979 Dr Alan Newsome, Mr Peter Catling, Mr Parer, and Dr Wood began observations of rabbit numbers at Yathong, in the semi-arid west of New South Wales, during a rabbit plague. At its peak, 11 000 rabbits were counted by spotlight on a 32-km transect. Then drought caused the rabbit population to crash, and on a later count of the same transect no more than 50 rabbits could be sighted. At times foxes and feral cats outnumbered rabbits.

The scientists capitalised upon this event with an experiment in which foxes and feral cats within an area of 120 sq. km were continuously shot. After 18 months 240 foxes and 77 cats had been eliminated. The predators were left alone in two other areas of similar size.

Mr Catling found that rabbit remains were evident in the stomachs of half the shot foxes, and in three-quarters of the cats, although the fractions altered with the seasons (see the graph on page 15). Foxes at Yathong mostly ate adults (60% of all rabbits eaten) and cats ate young ones (90% or more were kittens).

Rabbits climbed this warrior bush to do their ring-barking.

Shooting predators had a profound influence on rabbit numbers. On the two untouched areas, improving conditions saw the number of active warren entrances approximately double over a 12-month period, whereas on the blitzed area this index of rabbit numbers increased by a factor of about eight — a four-fold difference attributable to cats and foxes.

Dingoes are also valuable in suppressing the resurgence of rabbits in central-Australian cattle country, as observations by Dr Laurie Corbett and Dr Newsome have demonstrated. Over a 7-year period, the scientists periodically caught dingoes at Erldunda Station (200 km south-west of Alice Springs) and analysed their stomach contents.

They found that rabbits formed the staple prey of the dingoes, with on average 56% of the material retrieved from dingo stomachs proving to be from this animal.

Sandy soil makes burrowing easy.

Dingoes need to eat about 1 kg of food daily — so one rabbit is a good meal.

When rabbits were scarce (during drought), predation on them was most severe, with between one-third and two-thirds of dingoes managing to eat them. During a brief break in the drought, the scientists detected a sudden increase in the proportion of rabbit in the dingo diet (from 41% to 65%), but rabbit numbers apparently stayed the same, suggesting that dingoes stopped the rabbits multiplying.

Birds of prey, principally wedge-tailed eagles, can also be useful rabbit-control agents. Dr David Baker-Gabb of Monash University found that, in north-western Victoria, raptors (eagles, kites, falcons, and the like) picked rabbit as their main food item. He estimates that, during a 4-month period (September–December 1980), raptors consumed 14% of the immature rabbits in the study area.

So predators are a major aid in rabbit control. Much needs to be done to ensure that the plagues of pre-myxo days do not recur. Given persistence and scientific ingenuity, possibly the rabbit may one day slip from its long-standing position as our number one feral pest.

Andrew Bell

More about the topic

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