

CONTROL OF RABBITS WITH RABBIT CALICIVIRUS DISEASE (RCD) AND THE ENVIRONMENTAL IMPACTS

SUBMISSION OF THE ANTI-RABBIT RESEARCH FOUNDATION OF AUSTRALIA.

1. ECONOMIC COST OF RABBITS

Agricultural costs

Estimates of the annual cost to Australia of its European rabbit population vary widely; '\$90 million in lost primary production (in 1987)' (1); '\$115 million to the wool industry (2). In part this reflects many unknown factors, but it also reflects very different methodologies being used.

In some estimates, rabbits are converted to 'sheep equivalents' on the basis that 10 rabbits eat approximately as much as one sheep. Many workers recognise the unreliability of these estimates (3) and calculate them on a more restricted basis in terms of geography (\$22 million for SA alone) (4), or time (Reid's estimate of a \$590 million rise in the value of meat and wool production for 1952-3) (5).

While these various estimates are accepted as being largely out of date and probably highly inaccurate, virtually all of them stress that they are also likely to be conservative, being restricted to agricultural losses and sometimes losses in only one agricultural sector. More recent estimates have claimed agricultural losses to be as high as \$100 million per year (6) and, most recently, \$600 million per year (7).

Environmental costs

These are even harder to estimate than agricultural losses, but however they are calculated, they are large. The growing ecotourism market is already estimated to be worth \$84 000 per minute to Australia (6), and rabbits are very destructive to the country's flora, fauna and sites that attract tourists.

Another estimate (8) quantifies some of the environmental costs on the basis that, if every rabbit eats only one seedling per year, (valued at less than commercial rates as between 50 cents and \$1), then the trees lost to Australia could be valued at between \$150 million and \$300 million annually. These assumptions and figures, too, are plainly conservative.

Unestimated costs (natural history, loss of biodiversity etc)

However costs are measured, the total environmental and agricultural costs of rabbits to Australia are staggering; possibly in the order of a billion dollars per year or more. This alone provides a very compelling reason for the release of the RCD virus and, while there are counter arguments, they should be assessed and evaluated against these enormous projected annual savings and the incalculable benefits of preserving biodiversity, which cannot adequately be given a monetary value.

2. COSTS AND BENEFITS OF RELEASING THE RCD VIRUS

The costs of releasing the RCD virus have been well anticipated (9) and include the following.

Ecological costs and benefits.

- **Possible infection of native animals by RCD virus**

There is no evidence to suggest that RCD virus is contagious to any other animal in any other country, nor has there yet appeared to be any such infection arising from the premature release of the virus in Australia. Research undertaken prior to field trials confirms that this is a negligible risk.

- **Prey-switching of feral cats and foxes**

- **Destabilisation of predator-prey relationships**

While the potential problems of prey-switching are recognised by ARRFA, there are already periodic collapses of rabbit populations. These are followed by crashes in the populations of both cats and foxes.

Nonetheless, ARRFA recognises that any prey-switching to native animals would be an undesirable consequence of RCD virus release, but does not regard this as an argument against a national release. That impact is likely to be even more severe if the virus is allowed to spread slowly through the country, as it is doing at present, affecting rabbit populations at different rates, and permitting the resurgence of immune rabbits which, in turn, will allow feral predators to rebuild their numbers.

Rather, ARRFA argues for the concerted release of the virus, and simultaneous programs to eradicate feral predators (cats and foxes), especially where small to medium-sized native animals are regarded as being at risk. Programs of this kind are already being successfully undertaken in the Flinders Ranges of South Australia to protect yellow-footed rock-wallabies against foxes, and had been underway before the premature release of the RCD virus.

Since its release, the virus is estimated to have eradicated 95% of rabbits within Flinders Ranges National Park. As a result, the Park now provides something of a model for the integrated management of these four feral pests, and native trees that have been unable to produce new shoots and suckers for most of this century are now doing so.

ARRFA argues that the costs of similar programs might well be met by the enormous savings arising from the destruction of rabbits.

Social costs and benefits.

- **Impact on employment (shooters, processors, exporters)**
- **Loss of game for sporting shooters**

ARRFA sympathises with those who have been able to make a living and profits from the exploitation of Australia's greatest vertebrate pest, but does not agree that Australia should continue to suffer such a pest in order that a few should derive commercial or recreational benefits from it.

Based on processors' turnover (ignoring Akubra), it is ARRFA's estimation that the wholesale value of meat sales from rabbits would not have been greater than \$5 million to \$6 million annually over the past two years for all Australia. Our own documentation (8) suggests that the replacement of rabbits by kangaroos could lead to kangaroo products in the order of \$7 million annually, in just the areas at present affected by RCD.

ARRFA also argues that, although the unplanned release of the RCD virus was in many ways unfortunate, it may also have been beneficial in pre-empting an extremely unfortunate development, namely the commercial farming of rabbits. Permission for this was granted on 15.9.95, by the NSW Agriculture Minister (10) and ARRFA viewed this action with dismay, recognising that any commercial operators who had invested in such schemes were likely to oppose the official release of the RCD virus at some future date.

- **Impact on Aboriginal communities through loss of 'traditional' food.**

ARRFA argues that Aboriginal communities who supplement their food by hunting rabbits should be compensated by the provision of alternative food, and that this may need to be for a period beyond 1998. However, this situation is as likely to result from the premature release of the virus as from its deliberate release, so the need for such assistance should not be viewed as an additional cost arising only from the deliberate release of the virus.

- **Negative International perceptions**

Negative International Perceptions are likely to be minimised by a concerted and deliberate release of the virus under optimum conditions. At present, the virus is already killing rabbits and, while this is receiving news coverage, it is frequently described as the result of a mistake, an accident or worse. Such coverage forces official reactions to it to look defensive and sometimes self-justifying. The planned, official and formal release of the virus will help to ensure that these negative perceptions are overcome, and the reasons for the release can be better presented, explained, promoted and defended than at present.

- **Animal welfare**

Given that there is to be any attempt at all to eradicate European rabbits in Australia, the RCD virus appears to be the most humane solution currently available.

- **Loss of pets**

While ARRFA does not advocate the use of rabbits as pets, and argues for the total eradication of European rabbits in Australia, it recognises that those who do keep rabbits as pets or as show animals were entitled to expect that they could do so in an RCD-free environment until 1998. ARRFA argues that consideration be given to the provision of free vaccine to pet-owners (at least until that time). Such provision will also help to prevent adverse press coverage arising when pet rabbits or prize rabbits die from RCD, especially if those animals belong to children, pensioners and the economically disadvantaged who cannot afford to pay for vaccines.

3. BIOLOGICAL

Active versus passive rabbit control.

Whether or not the decision to release RCD virus deliberately is taken, the virus is at large in the wild rabbit population, and it can never be recalled. In consequence, a decision not to release the virus deliberately will result in all the disadvantages foreseen in the planning of the RCD program but greatly reduced advantages that were seen as the justification for it. This would be the least satisfactory outcome possible, particularly in the long term. Disadvantageous consequences of an unplanned spread of RCD include the following.

- Less effective control of rabbits than would be the case with a planned release.
- Infection of rabbit populations at times in their breeding cycles when there are high numbers of young rabbits which recover from RCD and are then immune for life.
- Build up of resistance to RCD virus among rabbit populations, as occurred with the slow spread of myxomatosis.
- The migration of feral predators to unaffected or immune populations. This would result in sustained high numbers of these pests, and render ineffective any program to eradicate them at the same time as rabbits.
- The unofficial spreading of the virus by farmers or others keen to eradicate rabbits on their properties.
- An enduring perception that those who manage biological control programs are unable to do so competently.

ARRFA strongly supports bringing forward the date of the planned deliberate release of the virus from 1998 to whatever time(s) will make it most effective as a control agent against rabbits in Australia.

Retention of intended course of action.

It was always intended that the RCD virus should be released. That intention had the support of all governments, and awaited only the demonstration of the effectiveness and safety of the virus and a public consultation program. The premature release of the virus was therefore unfortunate for three main reasons.

- The release occurred at a time and under conditions that did not have the greatest possible impact on the rabbit population.
- There was a loss of public confidence in those responsible for managing the control programme.
- The consultation process was necessarily compromised, with certain groups claiming hardship as a result.

ARRFA believes that none of these outcomes can be improved by not officially releasing the virus; On the contrary, an official and deliberate release of the RCD virus is the only way of addressing points i and ii. The problems arising from point iii will need to be addressed in any case, but will be better addressed within a program that is seen to be officially endorsed and consistent with that originally planned, except for the advancement of the release date from 1998 to 1996.

Simultaneous control programs for feral pests

The dangers of prey-switching by feral predators have been discussed elsewhere in this submission, and have been anticipated within the RCD program itself.

ARRFA urges that, together with any deliberate release of the RCD virus, simultaneous control programs be undertaken to eradicate feral predators of rabbits (foxes and cats), especially where populations of native animals are most at risk from prey-switching.

ARRFA believes that the savings arising from the introduction of RCD virus will more than cover the costs of these programs, and that they will contribute considerable economic and environmental benefits of their own.

4. PUBLIC RELATIONS

ARRFA's principal objective has always been the eradication of the European rabbit in Australia. This aim has been pursued by publicising the damage done by rabbits, the awarding of grants for research into rabbit control and continued support for the RCD program. ARRFA has not simply been anti-rabbit, but has also been involved for years in promoting the cause of native animals which have been most affected by rabbits.

Easter Bilby and public attitudes

Part of that promotion has been the Easter Bilby campaign, in which the public has been invited to support a native animal (the bilby) as an Easter symbol instead of the rabbit. The program has so far involved the registration of the Easter Bilby Trademark, licensing of manufacturers to make cards and chocolate Easter Bilbies, the production of information packages for schools and the support of an Easter Bilby book. A recent survey (May 1995) (11) reveals that this program has been successful.

These results confirm ARRFA's view that the public attitude toward rabbits has changed very considerably in recent years, and that public opinion will now largely support the release of a safe biological agent that effectively eradicates rabbits and improves the prospects for survival of native animals with which they compete.

Groups in support of the RCD program

ARRFA is a national body, with state branches throughout Australia. It has connections with other volunteer organisations and national bodies similarly concerned with rabbits and the damage that they do. ARRFA is well supported by corporate sponsors who wish to support us in our campaign to eradicate rabbits. All of these bodies have been working for years with the expectation that RCD would be released should experimental trials prove its safety and effectiveness.

Both conditions have been met, and the premature release confirms the most optimistic expectations that RCD will be a highly effective agent against rabbits.

While the official release of the virus at this stage will anticipate the planned release by about two years, it is consistent with the expectations and endeavours of these many groups who have worked towards its release at some stage.

Not to release it would be to betray the reasonable expectations of these groups, and to devalue the enormous amount of time, money and effort that they have already committed in support of the RCD program.

Reclaiming the initiative

The premature release of the RCD virus was unfortunate in terms of public perceptions, not because the virus is unsafe, nor because it 'escaped'. It was unfortunate because the public was not fully aware that all safety and field trials had been completed, and that the release of the virus had always been anticipated and desired by all state and federal governments of Australia and New Zealand. That information had always been available, but it was not as newsworthy or as memorable as the manner in which the virus became widespread on the mainland.

At present, while press coverage has, in ARRFA's opinion, been largely fair, it is dominated by a perception that the virus has escaped as the result of poor science and inadequate planning, and many reports are now consolidating this view by reporting how the virus is being spread by journalists, the black-marketing of rabbit corpses, the nature of unknown vectors and, most recently, alarmist fears about the stability of caliciviruses.

These reports increasingly have coloured the public's perceptions, and ARRFA believes that this will continue until such time as the virus is officially released. Such an official release will allow those in authority to reclaim the initiative, correct misinformation and in some measure to lead press coverage of the RCD program, rather than react to idiosyncratic and sometimes mischievous coverage of the least satisfactory parts of it.

Demonstration of responsible attitudes

Similarly, a planned and official release will allow the initiative to be taken regarding the welfare of aboriginal groups, rabbit shooters and processors and pet owners. At present, some of these are disaffected groups, ready to blame the RCD program for a mistake that they view as costing them their food, livelihood, or pets.

A planned and official release which includes reference to the interests of these groups (as would have occurred by 1998) is, AARFA believes, the only effective way in which the hostility and the welfare of these groups can be effectively addressed.

Prevention of subversive activity

Since the premature release of the virus, journalists have been blamed for spreading it, farmers have been reported to be trafficking in dead rabbits, and a disgruntled rabbit shooter has claimed to have released cane toads in the Riverland in retaliation. Shooters who claimed to earn their living from rabbits are openly discussing taking legal action for compensation.

ARRFA believes that these activities are far more likely to continue, and perhaps intensify, in the absence of official action to bring the official release of the virus forward to 1996. By taking this official step, those responsible will be able to address the concerns of those who are disaffected, take the initiative in reaching some accommodation with them, and negate the perception and claim

that these groups and individuals are all the victims of a mistake.

5. COORDINATION OF GROUPS

There are many groups in Australia which are vitally interested in rabbit control, promote the need for it and will benefit from it. They include special interest groups like ARRFA, Pest control commissions, agricultural bodies, conservation groups, those involved in Landcare programs, Trees for Life and so on.

A great deal of the success of conservation work in Australia depends on these organisations, many of which are voluntary, and they have much to contribute in assisting the public to understand the RCD program and the benefits of a deliberate release of the RCD virus under conditions that will maximise its effect.

At the time of the premature release of the RCD virus, some of this anticipated support was not apparent; and some groups who might have been expected to be supportive were not. Other groups, ARRFA included, were frequently called upon for media comment, but were not always confident that they had information as complete or as current as that of the journalists interviewing them.

ARRFA suggests that the help of these groups should be enlisted to ensure that a planned release of the RCD virus receives as much informed publicity and promotion as possible. It is essential that such groups be informed of progress leading to any resolution about whether or not to release the virus, and the reasons for any decisions.

ARRFA recommends compiling a register of such groups, and that they be so informed, by Fax or some similar mechanism, in order that their support can be most effectively enlisted.

Dr Robert G B Morrison 20.12.95
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6. REFERENCES

- Rabbits to Ruin, Information brochure, ARRFA
- RCD - THE BACKGROUND, Information sheet
- Rabbit Haemorrhagic Disease: Issues in Assessment for biological Control, Munro R K and Williams, R T (Eds), Bureau of Resource Sciences, 1994, p 81
- Braysheer, M et al, Developing a National Strategy for Rabbit Control. Aust Rabbit Control Conference, Adelaide 1993, ARRFA, p7
- Rabbit Haemorrhagic Disease: Issues in Assessment for biological Control, Munro R K and Williams, R T (Eds), Bureau of Resource Sciences, 1994, p 82
- ARRFA, RCD Workshop, 24.10.95, Adelaide.
- The Economic Impact of Rabbits on Agricultural Production in Australia, A preliminary Assessment. International Wool Secretariat, Canberra, Nov 1995
- William Morgan, ARRFA, RCD Workshop, 16.10.95, Adelaide
- Rabbit Haemorrhagic Disease: Issues in Assessment for biological Control, Munro R K and Williams, R T (Eds), Bureau of Resource Sciences, 1994, pp 84-90.
- NSW Government approves Australia's No 1 Pest., ARRFA Media Release, 25 September,
- Easter Bilby Research Project, May 1995, LEAP Retail Project, Adelaide