

# Q&A Rabbit R&D Webinar 2024

A summary of questions and responses from the Webinar.

## Pindone

**Question:** *What is the physiological reason for the 3-5 day interval between pindone feeds, and how humane is 10-14 period until death?*

**Answer:** When used to control rabbits pindone is most effective in relatively small consecutive uptakes over a few days. This intake pattern maintains levels of pindone in the liver where it inhibits the metabolism of vitamin K.

During this time blood clotting factors in the body are being depleted and not replenished by metabolism of Vitamin K. This depletion eventually leads to an 'anticoagulant' effect, where blood cannot coagulate normally, leading to haemorrhage.

Rabbits show no visible signs of poisoning in the days after treatment, referred to as the latent period, which may take 3 – 7 days. Visible signs and death follow over a similar period. In all, the time to death after lethal exposure is generally 10 – 14 days.

The extended period to death is why the 'mode of death' rating ascribed to pindone is higher than for 1080 in relative humaneness assessments, while both are similar in terms of welfare impact prior to death. For more information see [Rabbit control methods humaneness matrix](#) at the pestSMART website.

**Question:** *Is the importance of cleaning up dead rabbits covered in certificates required for pindone use?*

**Answer:** All poisons should be used in accordance with the instructions on labels. Labels on pindone products will specify that unused baits and any rabbit carcasses should be collected and safely disposed of.

Rabbits suffering from pindone poisoning are often lethargic and will retreat to the safety of a burrow in the days before death, but any dead rabbits found on the surface may have concentrations of pindone in their livers, with lesser levels in fat and muscles. The rate of degradation of pindone in rabbit carcasses has not been measured but is likely to be affected by temperature, moisture and biotic activity.

## Biocontrols

**Question:** *Why has RHDV2 spread so quickly and is a virus being developed that will affect young rabbits (under 12 weeks of age)?*

**Answer:** RHDV2 is able to infect young rabbits, and that is thought to be one reason why it has spread so quickly. Other strains of RHDV may be just as virulent, but RHDV2 is able to establish earlier in the breeding season, and hence has become the dominant variant.

For more information on RHDV2, see 'Age and Infectious Dose Significantly Affect Disease Progression after RHDV2 Infection in Naïve Domestic Rabbits' by [Hall et.al.](#)

**Question:** *What will be the benefit of an additional rabbit flea. How will it help combat populations of rabbits with immunity to biocontrols?*

**Answer:** Arid-adapted Spanish rabbit fleas, *Xenopsylla cunicularis*, were introduced into Australia in the 1990s and reach their peak during summer. *Caenopsylla laptevi*, also arid-adapted fleas, reach peak abundance in late winter or early spring when temperatures are lower. This means that, if imported, *C. laptevi* should spread myxomatosis among young rabbits in dry areas when temperatures are still low and there are few mosquito vectors. As low temperature enhances myxomatosis mortality that should further boost the effectiveness of the disease. Myxomatosis is still episodically active in Australia and enhancing its impact on young rabbits would ensure that rabbit biocontrol didn't rely on RHD alone.

## Total grazing pressure

**Question:** *Is a balanced kangaroo population, in the absence of rabbits, good for native vegetation communities and help with weed control?*

**Answer:** It is difficult to generalise across vegetation communities, seasons (e.g. drought versus post-rainfall regrowth), and different grazing intensities, but:

- In grassy woodlands with high densities of rabbits and kangaroos, kangaroos reduce grass biomass to a greater extent than do rabbits.
- In chenopod shrublands with relatively lower densities of kangaroos and rabbits, there is a reduced density of forbs where rabbits are excluded.
- Post-calici virus, rabbits are still suppressing the recruitment of woody plant species.

Conclusions from a related study (see [here](#)) include:

- Rabbits are likely to be keeping Australian rangelands suspended in a degraded state with increased weeds and inhibited recruitment of woody species.
- Rabbit control can facilitate rangeland recovery, but their control alone may be insufficient, e.g. where historic seed banks have been lost.
- Improvements in rangeland condition through rabbit control can be facilitated under kangaroo grazing, as long as kangaroos are not over-abundant.

## Awareness Raising

**Question:** *How can we help people to appreciate the harm that rabbits cause and the subsequent need for rabbit control programs to safeguard the environment?*

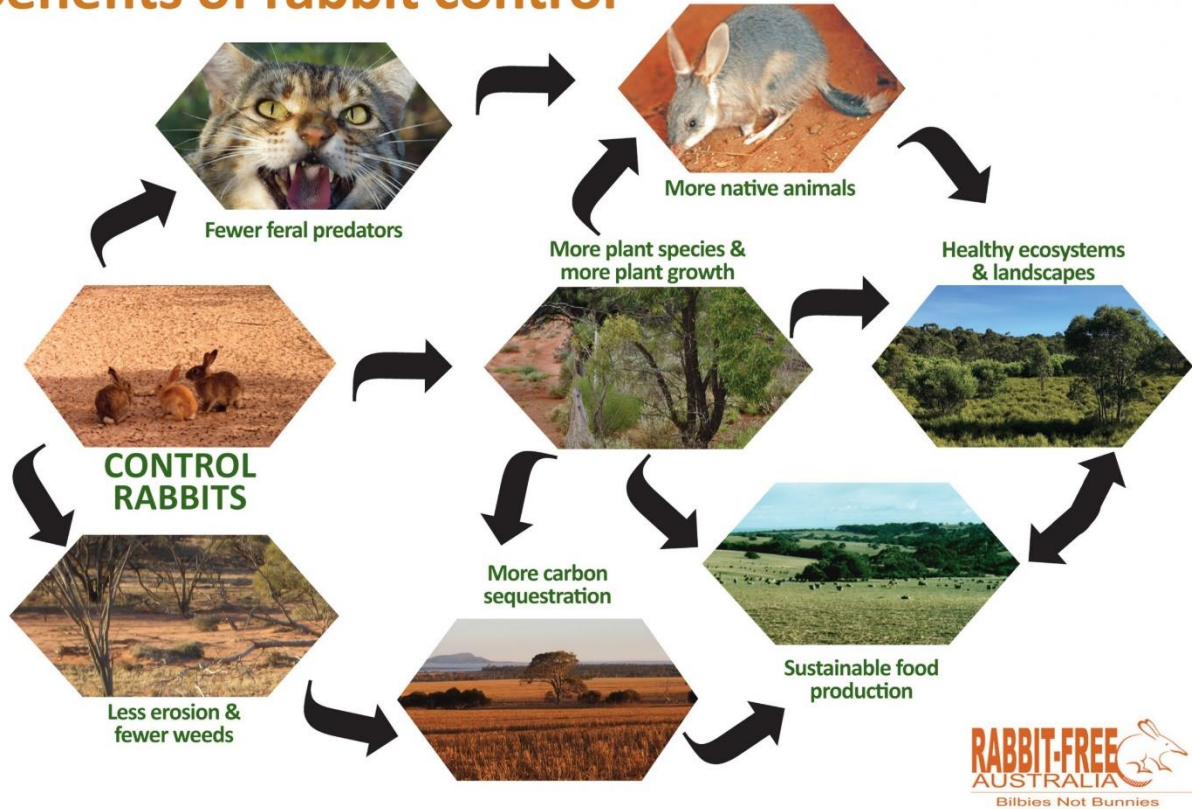
**Answer:** Several reports provide an overview of the environmental harm caused by rabbits and are good sources of information and other references.

- [Finlayson G, Taggart P & Cooke B](#) (2021) 'Recovering Australia's arid-zone ecosystems: learning from continental-scale rabbit control experiments.' Restoration Ecology. The Journal of the Society for Ecological Restoration.
- [Peacock D, Cox t, Strive T, Mutze G, West P & Saunders G.](#) (2021) Benefits of Rabbit Biocontrol in Australia: an update. Centre for Invasive Species Solutions, Canberra.
- [Pedlar RD, Brandle R, Read JL, Southgate R, Bird P & Moseby KE.](#) (2016) 'Rabbit biocontrol and landscape-scale recovery of threatened desert mammals.' *Conservation Biology* Vol30, Issue 4

The pestSMART website has a section on the [Impacts of Rabbits](#), and Rabbit-Free Australia has a section on its website devoted to the [Environmental Harm](#) caused by rabbits. The Foundation also uses the

following graphic as a discussion starter. Something like it could be easily developed with locally relevant images.

## Benefits of rabbit control



Foundation for Rabbit-Free Australia also uses Easter Bilby to promote a message of ‘hope and new life’ through rabbit control. It has recently launched a Easter Bilby’s Friends campaign including a ‘[Friends](#)’ website and what is intended to be a series of children’s books to help start conversations in families. ‘[Banjo Frog’s Concert Spectacular](#)’ is the first in the series of books.

Every organisation involved in rabbit control is encouraged to use the months leading up to Easter to spread a few simple messages:

- Rabbits cause harm; economic, environmental, and social.
- Rabbits can be controlled; no matter what the circumstances.
- Help is hand; there are local services and programs available to help people control their rabbits.

### Peri-Urban Rabbits

**Question:** *Is there any information available on urban rabbit control programs?*

**Answer:** Foundation for Rabbit-Free Australia is facilitating a trial forum to explore the issues associated with managing rabbits in urban and peri-urban areas. It hopes to develop a framework as a guide for general application with an emphasis on how to engage a community to gain the support needed, and on the techniques suited to such locations. Follow them on social media or join the Foundation for news of its progress.

PO Box 145,  
Collinswood, SA. 5081  
ABN: 96 533 157 496

[www.rabbitfreeaustralia.org.au](http://www.rabbitfreeaustralia.org.au)

[exec@rabbitfreeaustralia.org.au](mailto:exec@rabbitfreeaustralia.org.au)



For existing guides for peri-urban landholders and the actions they can take, see the examples from:

- [Port Phillip & Westernport](#) CMA (Vic)
- [City of Gold Coast](#) (Qld)
- [Sutherland Shire](#) (NSW)
- [Mornington Peninsula Shire](#) (Vic)
- [Urban & semi-urban areas](#) (WA)
- [City of Hobart](#) (Tas)