

## The Economics of Rabbit Control

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### The Big Picture

Government press releases cite the billion dollar costs of resource management problems and propose multi-agency and community-based approaches to fix them.

Governments may use shock tactics and community consultation to garner votes. However, unless the proposals stack up in a business sense, the real decision makers (i.e. landowners) will not adopt them and the program will ultimately fail because of low adoption rates. The poor quality of the benefit-cost analysis underlying resource management policies is likely to mean that few will be successful.

Providing the real decision makers with good technical and economic information upon which they can base control decisions is a core constraint. If private incentives to adopt are not sufficient, policy options which involve public funds must be considered.

### Levels of Economic Analysis

Estimating the costs and benefits of rabbit control can be performed at a number of levels and with varying levels of complexity. These include:

1. A farm business level which captures **private costs and benefits**. More complex approaches may involve bioeconomic modelling and our experience is that biophysical rather than economic information is a constraint.
2. At another level, **social costs and benefits** can be examined. These include:
  - Externalities** - the affect of rabbits in one area on other individuals (e.g. neighbouring farms) and;
  - Public goods** - the impact of rabbits on goods which are not owned privately (e.g. good quality water). Measuring and valuing these impacts is challenging.
3. A final level of analysis is the **regional economic impact** of pests. This approach measures key regional effects from changes in (say) farm production due to rabbit damage.

### The Rabbit Control Simulation Model

This bioeconomic model was developed as a decision making aid for those involved in rabbit control. It operates at the farm level only (i.e. estimates private costs and benefits), simulates competition between rabbits and sheep for pastures, and has been used to identify several rules of thumb relating to rabbit control in wool production systems, the key ones being:

- All control options improved farm financial performance, though by varying amounts;
  - Net benefits of control vary with season (rainfall);
  - Regular control intervals of no greater than two years produced the largest net benefits;
  - Pasture biomass was a better trigger for control than rabbit numbers;
  - The majority of control benefits came from reduced supplementary feed costs;
  - There are interactions between stocking rate and net benefits from rabbit control.
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