

## REPORT

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Prepared for: Council  
Prepared by: Selva Selvarajah, Director Resource Management  
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**Subject: Rabbit Control Compliance Strategy and Procedures**

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### 1. Précis

This report details compliance strategy and procedures for promoting/enforcing rabbit control in the Otago region for the successful implementation of the Regional Pest Management Strategy (RPMS) 2009.

### 2. Background

At the last Compliance Committee meeting (11 March 2009) a comprehensive paper on “Rabbit Control in the Otago Region” was presented with steps considered necessary for a smooth transition from RPMS 2001 to 2009 and effective implementation of RPMS 2009; that Council:

1. develop guidelines for land owners/occupiers to prepare Control Programmes;
2. develop guidelines or educations materials for land owners currently under MAL 3;
3. develop monitoring/surveillance and reporting strategy and enforcement procedures and associated delegations for breaches of rules 5.2.4(iii)(b) and 5.2.4(iv);
4. develop and implement plans for effective rabbit poisoning;
5. develop Control Programme approval procedures and associated delegations;
6. make publicity and hold workshops to discuss RPMS 2009 and guidelines on Control Programmes and council enforcement procedures; and
7. identify land owners and occupiers within areas under Rule 5.2.4(i) including identification of clusters of landholding requiring same level of control and send requirement to submit individual Control Programme or combined Control Programmes.

This paper provides details for the above steps for the effective implementation of the Regional Pest Management Strategy (RPMS) 2009 Rabbit Pest Management Strategy rules (Rule 5.2.4):

- (i) *On land where under the Regional Pest Management Strategy for Otago 2001, the maximum allowable level for rabbits and hares was greater than 3 on the modified McLean Scale and where the level on that land exceeds 3 on the modified McLean Scale at the commencement of this strategy, then the occupier must have an approved Control Programme to ensure a reduction in combined rabbit and hare infestation to a level of 3 or less on the modified McLean Scale by 1 October 2012, or such longer time as the Otago Regional Council may, in its discretion, approve.*

- (ii) *On all other land (not being land in 5.2.4(i)), occupiers must ensure that rabbit and hare numbers are maintained at or less than a level of 3 on the modified McLean Scale. If rabbit and hare numbers exceed the maximum allowable level of 3 on the modified McLean Scale, the occupier must have an approved Control Programme to ensure reduction of combined rabbit and hare infestations to a level of 3 or less on the modified McLean Scale by 1 October 2012.*
- (iii) *Where an approved Control Programme is required:*
- (a) *The occupier must submit a written Control Programme to the Otago Regional Council for approval.*
  - (b) *The written Control Programme must be submitted within two months of a written requirement being made by the Otago Regional Council.*
  - (c) *The written Control Programme must contain an objective to reduce combined rabbit and hare infestations to a level of 3 or less on the modified McLean Scale and include a description of:*
    - (1) *Methods to be used to achieve the objective; and*
    - (2) *Areas to be treated with those methods; and*
    - (3) *The timetable for use of those methods.*
  - (d) *The Otago Regional Council will grant approval of a written Control Programme, if it is satisfied that the programme is reasonably capable of achieving the objective, having regard to:*
    - (1) *The nature and characteristics of the land that exceeds a maximum allowable level of 3 on the modified McLean Scale;*
    - (2) *The nature and use of surrounding land;*
    - (3) *The potential for rabbit and hare dispersion;*
    - (4) *The risks to the environment and land production from rabbit and hare infestation;*
    - (5) *The practicality of available control methods on the land.*
  - (e) *Control Programmes for adjoining properties must be compatible or jointly undertaken where a lack of rabbit barriers exists.*
- (iv) *An occupier must implement an approved Control Programme for the occupier's land.*

*Any breach of Rule 5.2.4(iii)(b) and Rule 5.2.4(iv) is an offence under Section 154(r) of the Biosecurity Act 1993 and may result in default work under Section 128 of the Act. This means that if occupiers do not have an approved Control Programme, or fail to implement their approved Control Programme, the Otago Regional Council may at its discretion undertake such rabbit and hare control work as necessary and recover costs from the occupier.*

*The sale, breeding, release and commercial display of these organisms is restricted by Sections 52 and 53 of the Biosecurity Act 1993.*

### **3. Steps 1, 6 and 7: Identify affected properties, develop guidelines for Control Programme and hold workshop**

#### ***Identifying affected properties***

Council has substantial amount of up to date information on rabbit compliance (as required by Rule 5.2.4(i)) on property by property basis. Therefore the step for monitoring and identifying properties with >Maximum Allowable Level (MAL) 3 is not necessary for the commencing of the implementation of the RPMS 2009 rabbit control rule. However, if there is a dispute between Council and the property owner/occupier on MAL, monitoring will be undertaken by Council.

#### ***Guidelines for Control Programme***

It is important that land holders and occupiers requiring Rabbit Control Programmes understand the criteria for Control Programme acceptance by Council. Any such guidelines have to be practical, cost effective and widely accepted by the users. If Council criteria for Control Programme acceptance are not understood or accepted by land holders and occupiers the approval of any Control Programme could be laborious and time consuming. Therefore it is important that the draft guidelines be discussed at workshops with the users and feedback obtained to complete the final version.

The guidelines will be based on Rule 5.2.4(iii) of the 2009 RPMS and Appendix 1:

#### ***Rules 5.2.4(iii) (a) & (b)***

- (a) The occupier must submit a written Control Programme to the Otago Regional Council for approval.*
- (b) The written Control Programme must be submitted within two months of a written requirement being made by the Otago Regional Council.*

#### ***Sub-steps***

- Request for a written Control Programme (to be submitted within two months of receiving the letter) identifying MAL status of the property and an invitation to workshop implications of the new RPMS rules to all affected land holders in the region.
- A copy of the Compliance Committee report “Rabbit Control in the Otago Region” and the draft Control Programme acceptance criteria will be sent with the letter.
- A workshop will be held within one week of sending the request for a Control Programme and the workshop will cover:
  - i. the key contents of the “Rabbit Control in the Otago Region” Compliance Committee paper including the current status of rabbit spread and effective rabbit control methods;
  - ii. new rules;
  - iii. draft Control Programme acceptance guidelines;
  - iv. enforcement steps by Council for not submitting a Control Programme or not complying with the Control Programme.
- Given Cromwell is in the centre of most rabbit infested areas in the region the workshop will be held in Cromwell.

*Rules 5.2.4(iii) (c), (d) & (e)*

- (c) *The written Control Programme must contain an objective to reduce combined rabbit and hare infestations to a level of 3 or less on the modified McLean Scale and include a description of:*
- (1) Methods to be used to achieve the objective; and*
  - (2) Areas to be treated with those methods; and*
  - (3) The timetable for use of those methods.*
- (d) *The Otago Regional Council will grant approval of a written Control Programme, if it is satisfied that the programme is reasonably capable of achieving the objective, having regard to:*
- (1) The nature and characteristics of the land that exceeds a maximum allowable level of 3 on the modified McLean Scale;*
  - (2) The nature and use of surrounding land;*
  - (3) The potential for rabbit and hare dispersion;*
  - (4) The risks to the environment and land production from rabbit and hare infestation;*
  - (5) The practicality of available control methods on the land.*
- (e) *Control Programmes for adjoining properties must be compatible or jointly undertaken where a lack of rabbit barriers exists.*

Appendix 1 shows effective methods to deal with varying Modified McLean Scale (MMS). Approximate cost estimate for each method has also been provided in the Appendix. This cost is only a guideline and does not bind either the Council or contractors to charge default work or contractual work on the property. It is important that suitable methods are proposed by the applicants and accepted by Council to enable effective control of rabbit. Table 1 indicates examples of accepted methods for a range of MMS. However, it is important that the size of the property will be also critical in considering a suitable control method. In many cases a combination of control methods may be required. The control methods may also vary with time as rabbit numbers reduce on properties. Accepted methods to Council will form part of Control Programme acceptance guidelines.

**Table 1. Examples of accepted methods**

| <b>Modified McLean Scale</b> | <b>Accepted Methods</b>                                    |
|------------------------------|--|
| 5+                           | Poisoning (suitable poisoning methods based on Appendix 1) |
| 4-5                          | Patch poisoning & helicopter shooting                      |
| 3-4                          | Fumigation, night or day shooting, pindone bait            |

Length of time required for the use of accepted method(s) to achieve full compliance of the RPMS 2009 will be dependent on the following factors:

- MMS;
- Size of affected property and the extent of rabbit control work required;
- Suitable timing for engaging an accepted method of control;
- Participation in a 'cluster' programme where surrounding properties have similar MMS.

Given compliance is required by October 2012, a sinking lid policy will be generally applied with Control Programmes working from high MMS to acceptable MMS such as <3.

Other factors for acceptance by Council that will also be considered are:

- Presence of rabbit proof fences;
- Lower MMS in surrounding properties without rabbit proof fences will require matching this level.

### ***Enforcement steps***

According to the Biosecurity Act 1993 (the Act), ss122, 128 and 129 give powers to delegated Council staff to take enforcement actions for non-complying with the RPMS. S122 states “...*an inspector or authorised person may, by notice in writing, direct any person who has failed to comply with a rule included in a pest management strategy to comply with that rule...*”. Therefore logically the next step after non-compliance with the RPMS 2009 Rule 5.2.4 is for a Council enforcement officer to serve a notice to direct the person to comply with the rule. If no work is carried out or the work is not satisfactory as directed under s122 direction, s128 (Power to act on default) of the Act will be triggered.

S128 states “...*(1) where a notice given to a person under this Act lawfully directing or requiring that person to carry specified works or measures, or take some other specified action, has not been complied with on the expiry of the time allowed by the notice for compliance, or, if no such time was specified in the notice, within a reasonable time, a chief technical officer [, principal officer] or a management agency may cause such works or measures to be carried out or action to be taken as is reasonably necessary and appropriate for achieving the purpose of the notice (2) Where specified works or measures are to be carried out on Maori land, any notice given to the owners shall be given in accordance with section 181 of Te Ture Whenua Maori Act 1993 (3) The chief technical officer [, principal officer] or management agency may recover the costs and expenses reasonably incurred under this section as a debt due from the person to whom the notice was given...*”.

According to s128, the Chief Executive Officer of ORC (referred to as Principal Officer in the Act) has powers to act on default and hence could effect necessary control work and recover cost from the land owner or occupier.

S129 (liens) of the Act states “...*all cost recoverable by a [chief technical officer, principal officer, or] management agency under section 128 of this Act shall be a charge (in this section referred to as the recovery charge) against the land concerned; and - (a) Subject to paragraph (b) of this section, the recovery charge shall have priority over all existing or later mortgages, charges, and incumbrances over the land, however they may have been created (including mortgages, charges and incumbrances in favour of the Crown): (b) If the land is or becomes subject to some other charge (being a charge created by an enactment other than this section), the charges shall rank equally unless the enactment provides that the other charge is to be deferred to the recovery charge...*”.

There are three key situations where non-compliance of Rule 5.2.4 and the subsequent Council officer's request to comply with a rule under s122 will trigger s128 or use of powers to act on default:

- (a) not providing a Control Programme within two months of written requirement made by Council as per Rule 5.2.4(iii) (a) & (b);
- (b) refusal to accept a programme that is satisfactory to Council and;
- (c) failing to implement a Council accepted Control Programme.

Failing to comply with a reasonable direction given under s122 is an offence under s154 (d) of the Act (*...without reasonable excuse, fails to comply with a reasonable direction given to that person in accordance with and for purpose of this Act by an inspector or authorised person, or the assistant of an inspector or authorised person...*). If prosecuted, this will result in an individual person being imprisoned for a term not exceeding three months or a fine not exceeding \$50,000, or both.

A breach of rule does not automatically constitute an offence under the Act unless it is specified in an RPMS rule as an offence under s154 (r) which will result in up to \$5,000 fine by the Court.

The enforcement steps are described in Table 1 and later integrated and illustrated in Figure 1.

**Table 2. Enforcement Steps**

| <b>Non-compliance</b>   | <b>Enforcement actions</b>   | <b>Penalty/Cost</b>   |
|---|--|---|
| Not providing a Control Programme                             | Direction to comply by an enforcement officer                              | <del>Nil</del> Up to \$5000 for individuals and \$15,000 for corporations |
| Refusal to accept a programme that is satisfactory to Council | Direction to comply by an enforcement officer                              | Nil   |
| Failing to implement a Council accepted Control Programme     | Direction to comply by an enforcement officer                              | <del>Nil</del> Up to \$5000 for individuals and \$15,000 for corporations |
| Failing to comply with the directions under s122              | Power to act on default under s128   | Cost recovery for the work carried out by Council or its contractors      |
| Failing to comply with the directions under s122              | Prosecution (in addition to the default work and cost recovery by Council) | Up to 3 months imprisonment and/or up to \$50,000 fine                    |

#### **4. Step 2: Develop guidelines or educational materials for land owners < MMS 3**

It is important that areas under <MMS 3 that have the potential to exceed MMS 3 in future (e.g. coastal Otago, Peninsula, etc) should also be considered by Council as target areas to ensure ongoing compliance with MAL 3. Regular publicity is required through local radio or leaflets to educate either small or large land holders in these areas. The publicity will include the adverse effects of rabbits on properties, practical control methods, access to technical advice or contracted services and the consequences of exceeding MAL 3.



## **5. Step 3: Develop monitoring/surveillance and reporting strategy and enforcement procedures**

Enforcement procedures have been set out in Sections 3 and 7 of this report.

As outlined in the previous report, Council monitoring to date comprised of: (a) serum or virus resistance monitoring; (b) night counts; and (c) maximum allowable number (MAL).

### ***Rabbit serum monitoring***

As stated in the previous report, analysis of the serum collected allows determination of the levels of immunity to Rabbit Haemorrhagic Disease Virus (RHDV) that the rabbit populations have at selected sites, thus helping the Council evaluate how effective the virus currently is throughout the Otago region, and enables predictions as to its level of impact in the future. Rabbit serum samples are taken from ten long-term monitor sites during March-April. These sites vary in size from a few hundred, to thousands of hectares. This monitoring has already formed a good baseline and ongoing information compilation. Given this information is critical to monitor the effectiveness of the virus in the long term and given RHDV is still an effective passive control agent, Council should continue with its annual serum test.

### ***Night counts***

As stated in the previous report night counting is a method used to determine rabbit trends and has been used in New Zealand since the late 1960s. The method is used at well established surveillance sites. These sites are situated throughout the region. The night counts are carried out annually in the late winter/early spring, the period when rabbit numbers are at their most stable. This provides a good indication of the potential breeding population at the start of the main rabbit breeding season. This also allows the Council to advise landholders of appropriate control measures that will need to be undertaken to prevent or stop breaches of the RPMS. Unlike MMS monitoring in night counts the trends in rabbit *densities* can be determined for various localities throughout Otago using this method hence this monitoring should also be retained.

### ***MMS or MAL survey***

This monitoring method yields more accurate results than night counts. Unlike night count monitoring the information is critical to monitor compliance with RPMS. The method also helps study rabbit population changes and effectiveness of any control methods. Since it is a compliance monitoring tool, this monitoring should be retained. More intensive and property specific survey will be required to ensure compliance with Control Programmes.

### ***Reporting***

In the past, regular reporting occurred through Committee papers, this will continue. Synthesised or brief versions of these monitoring reports could also be provided as an annual newsletter targeting land owners and occupiers in the Otago region.

As for MMS survey information apart from wider reporting of the survey results, specific property based information should be sent to each property. This will allow property owners or occupiers to ensure compliance with Control Programmes.

In short all three monitoring methods (i.e. serum, night count and MMS) should be retained in their current form and frequency. Property based MMS information should be sent to property owner/occupier.

#### **6. Step 4: Develop and implement plans for effective rabbit poisoning**

As identified in Section 3 of this report the only effective control method available on properties that have >MMS 5 is poisoning. Successful poisoning requires good timing and sufficient good quality of bait. Carrots, cereal pellets and oats are the most widely used rabbit baits. On a large scale operation, carrot poisoning (with 1080) appears to be the most effective tool compared to other baits such as oats (see Appendix 1). Therefore availability of carrot during carrot poisoning period particularly in winter is crucial to rabbit control in highly infested areas.

Generally Council's Regional Services Unit (the Unit) carries out poisoning operation in the Otago region, hence it is important that the Unit co-ordinate the availability of carrot for poisoning. This process will require the Unit to estimate the amount of carrot required for the season, pre-order and use or on sell for carrot poisoning operations. Such a process will ensure regular, effective and targeted poisoning on properties with MMS>5. Commencing from this year the Unit will be actively involved in providing carrot supply for the purpose of rabbit poisoning.

#### **7. Step 5: Develop Control Programme approval procedures and associated delegations**

Section 3 of this report discussed Control Programme guidelines which will guide properties owners/occupiers to submit acceptable Control Programmes. Figure 1 illustrates the process of Control Programme acceptance. The critical component of the acceptance process is Council staff assistance to property owners/occupiers during the preparation of the Control Programmes. This will ensure avoidance of delay and less time spent on the approval of a Control Programme.

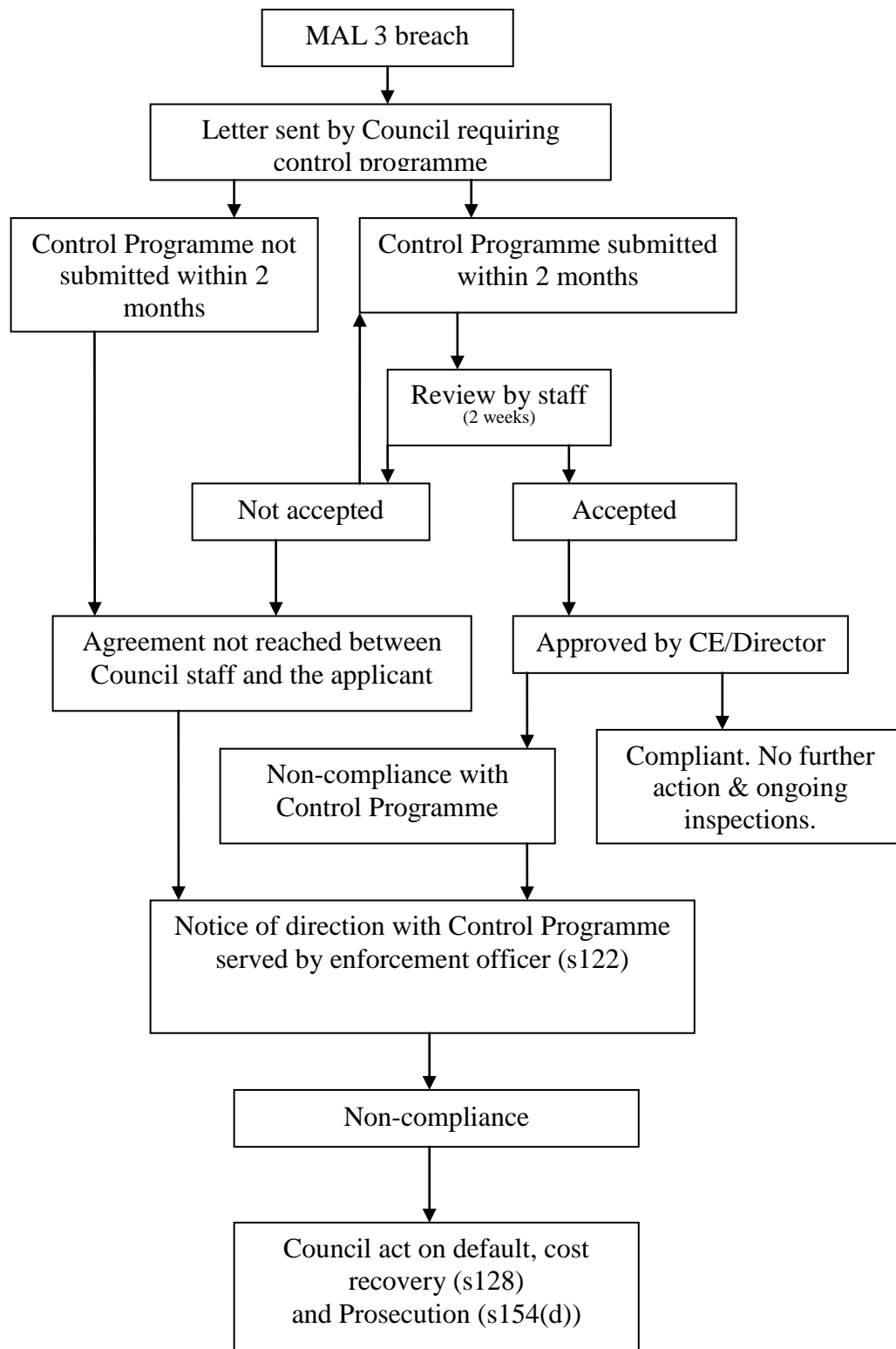
Enforcement procedures are an integral part of the Control Programme acceptance procedure because if Control Programmes are not submitted or agreements are not reached between Council review staff and the applicants, work still has to be undertaken at the cost of the landowner or occupier. Therefore the enforcement procedures outlined in Section 3 of this report will be included in this section as well.

Any directions served under s122 of the Act can be either prescriptive or general. A general direction will simply require the compliance with the RPMS rules. Both prescriptive and general directions are defensible in Court provided they are reasonable.

In the case of compliance with the rabbit control rule, given the rule is promoting a Control Programme approach it is sensible and reasonable to provide a prescriptive direction. Under the circumstances a prescriptive direction will be a Control Programme provided by Council. Therefore for the purpose of implementing RPMS rules 5.2.4(iii), a notice of direction served under s122 in the absence of a Council accepted Control Programme will be a Council prescribed Control Programme. In the case of land owners/occupiers failing to implement a Council accepted Control Programme, the direction will simply require the compliance with that Control Programme.



**Figure 1. Process of Control Programme Acceptance and Enforcement**



## **8. Recommendations**

That;

1. this report be noted;
2. Council staff prepare guidelines for acceptance of Control Programme based on guidance provided in Section 3 and Appendix 1 of this report;
3. sub-steps leading to Control Programme workshop stated in Section of 3 of this report be accepted;
4. regular education of landowners/occupiers within MMS<3 areas that have the potential to breach MAL 3 stated in Section 4 of this report be accepted;
5. monitoring strategy outlined in Section 5 of this report for serum, night counting and MMS monitoring be accepted; and
6. Control Programme and its enforcement process in Section 3 (Table 2) and Section 7 (Figure 1) of this report be accepted.



Selva Selvarajah  
**Director Resource Management**

## Appendix 1. Rabbit Control Methods and Costs

**Note:** The cost of method in the table provided is only an approximate estimate and does not bind either the Council or any contractors to charge accordingly for any default work or contractual work on the property.

| Method                                      | Pros   | Cons   |
|---|--|--|
| 1080 Carrot -<br>Aerial<br><br>~\$80/ha     | <p>Can be used on all terrain types.<br/>Can be used on all infestation levels.<br/>Environmentally friendly poison.<br/>Very effective.<br/>Allows good bait coverage.<br/>Low labour costs on large scale operations.</p>  | <p>Expensive.<br/>Only able to be used in winter.<br/>Not suitable where boundaries are critical or irregular.<br/>Requires suitable weather for flying.<br/>Requires suitable airstrip for fixed wing work, handy to the block.<br/>Subject to more stringent MOH and HSNO conditions, particularly around houses, waterways and public areas.<br/>Acceptability issues with sections of the general public.<br/>Risk of non target deaths (stock, deer, dogs etc).<br/>Requires minimum of 12 hours free of rain after toxic application.<br/>No effective antidote for toxin.</p> |
| Pindone Carrot<br>- Aerial<br><br>~\$100/ha | <p>Able to be used on all terrain types.<br/>Good where public resistance to 1080 exists.<br/>Quick return of ground for restocking.<br/>Very low risk of non-target deaths.<br/>Less stringent MOH conditions for use than for 1080.<br/>Low labour costs on large scale ops.<br/>Ideal for small landholdings and peri-urban properties.<br/>Antidote available for toxin.</p> | <p>Very expensive.<br/>Not suitable for high rabbit levels e.g. &gt;MMS 5.<br/>Not as effective as 1080.<br/>Much longer persistence in the environment and risk of residues in bodies animals/stock who have ingested sub lethal doses.<br/>Requires airstrip for fixed wing work, handy to block.<br/>Requires suitable weather for flying.<br/>Low tolerance to rain.<br/>Can only be used in winter.<br/>Birds susceptible to the toxin.</p>   |

|  |   |  |
|--|---|--|
| <p>1080 Carrot - Ground</p> <p>Mechanical bait layer<br/>~\$65/ha</p>    | <p>Suitable for use on flat to rolling country.<br/>Cheaper than aerial carrot.</p> <p>Suitable for all rabbit infestation levels.<br/>Allows accurate bait placement around boundaries, housing, waterways, etc.<br/>Uses less bait per hectare than aerial.<br/>Fewer weather issues during application.</p>  | <p>Higher labour costs.<br/>Not suitable for steeper country or areas with poor vehicle or motorcycle access.<br/>Requires good coverage of all habitat areas.<br/>Requires a skilled operator to achieve good results.<br/>Can only be used in winter.<br/>No effective antidote for toxin.<br/>Requires minimum of 12 hours free of rain after toxic application.</p>    |
| <p>Pindone Carrot - Ground</p> <p>Mechanical bait layer<br/>~\$75/ha</p> | <p>Suitable for use on flat to rolling country.<br/>Cheaper than aerial carrot.</p> <p>Allows accurate bait placement around boundaries, houses, waterways, etc.<br/>Low risk of non-target deaths e.g. low toxicity to domestic pets.<br/>Quick return of ground for restocking.<br/>Ideal for small landholdings and peri-urban properties.<br/>Antidote available for toxin.</p> | <p>Very expensive.<br/>Not suitable for steeper country or areas with poor vehicle or motorcycle access.<br/>Not suitable for high rabbit levels.<br/>Longer persistence in the environment.<br/>Low tolerance to rain.<br/>Requires a skilled operator to achieve good results.<br/>Not as effective as 1080.<br/>Winter only method.<br/>Birds susceptible to toxin.</p> |
| <p>1080 Carrot - Ground</p> <p>Hand laid<br/>~\$85/ha</p>                | <p>Suitable for use around small infestations.<br/>Able to be used on all terrain types.</p>  | <p>Not suitable for large scale infestations.<br/>High labour costs.<br/>Difficult to achieve good coverage on rough or scrubby terrain.<br/>Winter only method.<br/>No effective antidote for toxin.<br/>Requires minimum of 12 hours free of rain after toxic application.</p>   |
| <p>Pindone Carrot - Ground</p> <p>Hand laid<br/>~\$95/ha</p>             | <p>Suitable for use around small infestations.<br/>Able to be used on all terrain types.<br/>Able to be supplied to landowners- no licence required.<br/>Low risk of non-target deaths e.g. low toxicity to domestic pets.</p>  | <p>Not suitable for large scale infestations.<br/>High labour and toxin costs.<br/>Not as effective as 1080.<br/>Persistence issues for environment.<br/>Winter only method.<br/>Birds susceptible to toxin.</p>   |

|   |   |  |
|---|---|--|
| <p>1080 Oats –<br/>Aerial<br/>~\$80/ha</p>  | <p>Suitable for all terrain types.<br/>Suitable for all infestation levels.<br/>Fits in well with pastoral grazing management.<br/>Quicker return of land for restocking than carrot.<br/>Environmentally friendly poison.</p>                            | <p>Expensive bait and operation costs.<br/>More bait preparation required.<br/>Not as effective as 1080 carrot.<br/>More stringent MOH conditions.<br/>Requires minimum of 12 hours free of rain after toxic application.<br/>No effective antidote for toxin.<br/>Restricted to late summer/autumn only.<br/>Rabbits can be fickle to eating oats.<br/>Bait preparation time and equipment required is greater than for carrot.</p> |
| <p>1080 Oats –<br/>Ground<br/>Mechanical<br/>bait layer<br/>~\$75<br/>Hand laid ~<br/>\$85</p>  | <p>Suitable for smaller infestations on flat to rolling ground.<br/>Suitable for all levels of rabbit infestation.<br/>Quicker restocking than carrot.<br/>Able to be used in late Summer/Autumn.<br/>Environmentally friendly poison.</p>                | <p>Expensive bait costs.<br/>Expensive labour costs.<br/>Requires a skilled operator to achieve good results.<br/>Bait preparation time and equipment required is greater than for carrot.<br/>Requires minimum of 12 hours free of rain after toxic application.<br/>No effective antidote for toxin.<br/>Restricted to late summer/autumn only.<br/>Rabbits can be fickle to eating oats.</p>                                      |
| <p>Fumigation<br/>with Magtoxin<br/>or Cynogas<br/>~\$45/ha<br/>~\$0.80/warren/<br/>burrow DIY</p>                                    | <p>Suitable for all terrain types.<br/>Able to be carried out at all times of the year.<br/>Suitable for unskilled staff.<br/>Effective if done systematically and followed up.<br/>No destocking of land required.<br/>No risk of non-target deaths.</p> | <p>Only suitable for small scale operations.<br/>High labour costs.<br/>High fumigant costs.<br/>Needs to be done thoroughly to be effective.<br/>Best done as a follow-up to or in conjunction with other control work.<br/>Not effective when MMS &gt;4.</p>   |
| <p>Nightshooting,<br/>Motorcycle or<br/>Portable<br/>MC ~ \$4/ha<br/>Small lifestyle<br/>block ~ \$150<br/>Portable ~<br/>\$10/ha</p> | <p>Effective if done correctly and regularly.<br/>Suitable for flat to rolling country with good motorcycle or vehicle access.<br/>No destocking of land required.<br/>Can be done at any time of the year.</p>   | <p>Requires skilled operator to be effective.<br/>Not suitable for large scale infestations or steep terrain.<br/>Must be done regularly and thoroughly.<br/>Not effective when MMS &gt;4 or 5.</p>  |

|   |   |   |
|---|---|---|
| <p>Dog and Gun</p> <p>Small lifestyle block ~ \$200</p>                             | <p>Effective on small pockets of rabbits in cover where poisoning, shooting or fumigation are not an option.</p> <p>Can be done at any time of the year.</p> <p>No destocking of land required.</p> <p>Enjoyable activity.</p>  | <p>Requires a skilled operator and good dogs to be effective.</p> <p>Not suitable on large scale problems or extensive areas of scrub or cover.</p> <p>Not effective when MMS &gt;4.</p>  |
| <p>Day Shooting</p> <p>~ \$10/ha</p> <p>Small lifestyle block ~ \$150</p>           | <p>Good for removing small numbers of rabbits that are not able to be controlled with other methods.</p> <p>Can be done at any time of the year.</p> <p>No destocking of land required.</p>   | <p>Limited effectiveness.</p> <p>Requires a skilled operator to be effective.</p> <p>Not effective when MMS &gt;4.</p>  |
| <p>Trapping</p> <p>Cost extremely variable</p> <p>Small lifestyle block ~ \$200</p> | <p>Good for removing small numbers of rabbits that are not able to be controlled with other methods.</p> <p>Can be done at any time of the year.</p> <p>No destocking of land required.</p>   | <p>Limited effectiveness -best done in conjunction with other methods.</p> <p>Not effective when MMS &gt;3.</p> <p>Requires a skilled operator to be effective.</p> <p>Domestic pets are at risk.</p> <p>Viewed as in-humane by general public and SPCA.</p> <p>Labour intensive.</p> |
| <p>Helicopter shooting</p> <p>~\$15/ha/yr</p>                                       | <p>Only effective method where coverage with a vehicle or M/C is limited due to terrain etc.</p> <p>Effective where vegetative cover harbors rabbits requiring the animal to be flushed out using helicopter.</p> <p>Very effective method with skilled shooters and pilots.</p> <p>Can be done at any time of the year.</p> <p>No destocking of land required.</p> <p>Best results when complimented with other control methods.</p> | <p>Only effective if rabbits levels below MMS 5. Relatively costly e.g. ~\$15/ha /yr (maintenance control only).</p> <p>Requires assistance from other methods or the regular presence of RHDV.</p>   |
| <p>Pindone pellets</p> <p>\$30/ha</p> <p>\$20/ha DIY</p>                            | <p>No licence required when applied in bait stations.</p> <p>Low cost method.</p> <p>Use all year.</p> <p>Suitable for small holdings.</p> <p>No destocking of land required.</p> <p>Low risk of non-target deaths e.g. low toxicity to domestic pets.</p> <p>Antidote available.</p>   | <p>Low rates of acceptance in Central Otago.</p> <p>Suitable for low rabbit infestations only.</p> <p>Risk to passerines eating crumbling bait.</p>   |



