

ANIMAL PEST CONTROL

ANIMAL PEST

Use of Repellents

Introduction

There is an increasing demand for repellents, effective against possums, rabbits and hares, particularly around forestry, horticultural and lifestyle blocks. Repellent preparations are designed to make plants unpalatable to browsing target pests. Even a few individuals can cause serious damage to timber crops. Control of small numbers of animals is expensive while complete elimination is virtually impossible.

When to use repellents?

The main damage period for browsers is usually immediately after planting as the freshly exposed soil attracts these pests. Before using repellents, a risk assessment needs to be carried out to evaluate the costs/benefits of their use, particularly for timber crops, erosion protection and conservation plantings.

Applying repellents

Repellents are generally applied as foliar sprays, which have to be reapplied periodically to treat new growth occurring within browsing range (40cm - 50cm above ground level). Spray-on repellent solutions should not be applied to the point of run-off. Adhesives in repellent mixes can block plant stomata if heavy applications are used, especially on delicate or bipinnate (has leaflets growing in pairs on paired stems) foliage. A coarse droplet size and a 50% foliar coverage overall are adequate for repellent spray application.

A number of repellents are available on the market available through garden centres, horticultural and agricultural merchants. The main formulations are:

Egg-based repellents

Fresh eggs and egg powder are high in protein and lipids and when mixed with an adhesive provide good protection from rabbits, hares and possums. This mixture also gives good protection against deer and sheep. Fresh eggs mixed with acrylic paint are ideal for a small number of trees but for large scale plantings, egg powder and acrylic resin adhesive is more economical.

Egg based repellent recipe

Ingredients to make one litre of repellent (treats 500 seedlings)

- 80g whole egg powder + 830ml water **OR**
- 5 fresh eggs + 630ml water; **MIXED WITH**
- 120ml Primal AC 235 acrylic resin **OR**
- 120ml acrylic white paint (*preferably white with a reasonable % of solids - white Timbacryl was tested by Forest Research Institute*)

Preparation

Egg powder - mix with a little of the water to form a paste and then add the other ingredients

Fresh eggs - beat well, with egg beater, then add the other ingredients

Application

Spray approximately 20ml of the repellent on and around each seedling in the field immediately after planting. A second application may be needed in the spring (*recipe from Lisa Crozier, Forest Research Institute*)

This mix does not persist as well as commercial egg preparations and usually has to be reapplied at three-weekly intervals.

Thioproduct®

Thioproduct® is a thiram based repellent. It has shown to protect against damage from

rabbits, possums and hares for at least four months. It is purchased already mixed and available from farm supply merchants and horticultural outlets.

Treepel®

Treepel® is an egg-based repellent that is mixed with a resin. It provides protection from rabbits, possums and hares for up to four months. This product is available from farm supply merchants and horticultural outlets.

Plantskydd®

Plantskydd® is an animal repellent available from horticultural outlets and farm supply merchants such as Farmlands Trading Ltd.

Thiram Mix

50g thiram fungicide wettable powder 100ml water-based paint 900ml water

Mix thiram powder with a little water to make a paste, then add the rest of the water and the paint. Thiram provides good protection but remember it is an agrichemical - **avoid skin and eye contact and inhalation of spray mist. READ THE LABEL regarding use and handling, as well as first aid information.**

Muttonfat and Kerosene

Muttonfat/kerosene appears to repel browsers effectively. The mixture is lightly spread on the tree. However foliage particularly broadleaf species can be scorched if liberally applied. Although the cost of the ingredients is cheap, more time is required to prepare the spray. It is not recommended for broadleaf species.

Ingredients

10 parts mutton fat + 1 part kerosene

Preparation

Melt fat and mix with kerosene. Allow to set.

Application

Wipe seedlings with slightly greased rubber glove leaving minimal visible fat. Apply sparingly because foliage, especially on broadleaf species, can be burnt if too much is used. Dab ground at the base of the tree or supporting stakes to provide more smell deterrent.

Fish fertiliser

Fish fertiliser is cheap, but can scorch young foliage, sometimes causing death particularly with broadleaf species and it is difficult to apply through spray equipment. This repellent is not recommended.

Bird repellents

There are products available such as Hot Foot and Bye Bye Birdy that can be applied to sites such as gutters and ledges to deter nesting and roosting.

Other repellents

The following methods can also be considered for smaller areas like gardens:

- Spray the lower parts of the trees in spring with a strong lime sulphur wash.
- A strong solution of Jeyes fluid will give temporary protection if sprayed evenly around plants particularly against cats.
- Sprinkle naphthalene moth balls. Citronella may also be effective in repelling cats.
- Sprinkle blood and bone fertiliser around new plantings although it will attract cats and dogs.

Which repellents to use?

While many repellents are currently available for use against common browsers in New Zealand, egg based formulations, Thiroprotect® and Treepel® appear to be the most effective.

Egg mix appears to repel browsers well and is cost effective, making it ideal for larger scale plantings. Thiroprotect® and Treepel® are also effective in repelling browsers and although more expensive, they are ideal for smaller scale plantings. Plantskydd® is a reasonably new blood based product.

Precautions

Licenses are not required to use the repellents mentioned in this Environment Topic. However care needs to be taken particularly in the mixing of these formulations.

Acknowledgements

Information supplied by Taranaki Regional Council and Environment Bay of Plenty.

For further information

For further information on animal pests or the Regional Pest Management Strategy, please contact the Biosecurity Animal Pest Officers at the Hawke's Bay Regional Council.

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Waipukurau	06 858 8636
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