PREDATOR FREE NZ

Starter's guide to

Predator control on farms

Introduced predators (rats, mice, possums, stoats, ferrets and weasels) create havoc on farms. They eat crops, spread diseases including bovine TB and Leptospirosis, damage equipment, and harm native plants and wildlife. They also breed fast: one pregnant rat can result in 400 more rats in just six months.

The good news is that predator control can make a significant difference on your land, but knowing when and how is the secret to being successful and keeping costs down.

Your predator control toolbox

There's no magic bullet; all tools have their advantages, limitations and consequences. Overuse of the same tool will reduce its effectiveness. Tool selection depends on each situation: habitat, scale, which predators are present and how much time and money you put into it. For the best chance of success, you'll also need to team up with your neighbours.

Toxins

Pros

- Effective over large areas with dense predator populations.
- Can save time, money and resources.

Cons

- Personal risk of handling toxins, risks to other animals on the farm and to the wider environment.
- Toxin use can be confusing. Take your time and do your research before you start.

Tips for best use

- Contain in weather resistant bait stations (e.g. Philproof Tamperproof Rodent, Pestoff Easy-Feed, Sentry).
- Secure bait blocks on pins so rats can't carry off and store.
- Use late winter through to early spring when predators increase and threaten nesting and fledging birds.
- Instead of baiting year-round, 'pulse' your bait at key times to save money and avoid bait shyness (effective pulsing times are usually four times a year in August, November, January and April).
- Remove bait after 2 weeks to avoid predators encountering rotten or mouldy bait (adding to bait shyness). For best practice when disposing of bait, check the product label.
- Bait station spacing will depend on your target animal, toxins used and habitat. Adequate coverage is important.

Risks

- Carefully consider any potential effects of toxins on your farm! Desirable wildlife and livestock must not have access to baits.
- Some toxins may build up in the environment and may kill or harm other animals or wildlife through eating baits (primary poisoning) or by consuming poisoned animals (secondary poisoning).
- Follow label instructions, use Personal Protective Equipment, post appropriate warning signs, contain toxins in bait stations, and keep bait stations away from stock and pets. If you suspect poisoning, call the National Poisons Centre on 0800 POISON.


1080 pellets

Types of toxins

Acute toxins (fast acting: e.g. 1080, cyanide)

- Controlled Substance Licence (CSL) required.
- Animal feels effect within minutes.
- Requires pre-feeding to get good results.
- Risk of bait shyness — bait shy predators are hard to catch and so are their offspring!
- No antidotes.
- Secondary poisoning risk for some acute toxins.

Chronic toxins (slow acting: e.g. anticoagulants)

- No CSL required.
- Animal doesn't feel effect for days so does not associate feeling 'unwell' with eating bait.
- Weaker first generation anticoagulants (Pindone, Ditrac, Contrac) require multiple feeds over several days.
- More powerful 2nd generation anticoagulants (Pestoff) need just one feed.
- Antidote available.
- Second generation anticoagulants can be persistent in the food chain, so be careful if wild or domestic pigs are present.

Cholecalciferol (Vitamin D3) (Feracol and DECAL)

- No CSL required.
- Fits in between acute and chronic.
- Predators lose appetite after 20–30 mins.
- Pre-feeding required to avoid bait shyness.
- No secondary poison effects.

Goodnature A24 trap

Trapping

Pros

- Useful for ongoing control once predator numbers are knocked down by toxins and/or night shooting.
- Less hazardous than toxins.
- Also useful for assessing predator presence/abundance (monitoring).

Cons

- Most kill traps only kill one predator at a time.
- If predator numbers are high, trapping can be time consuming and less effective than toxins.
- A trap 'scare' (from an incorrectly set trap) can make predators trap shy.
- Traps can be dangerous to non target species such as kiwi, kea and weka. Contact DOC for information on necessary precautions.

Tips for best use

- Kill traps (e.g. DOC 200 box traps, Flipping Timmy, Sentinel, Warrior) can be set and left for a period of days or weeks between checks. Check frequently — at least every 2 weeks if possible, but more in spring and summer when predators are more mobile.
- Automatic resetting traps such as the NZ Autotraps AT220 or Goodnature A24 can catch multiple predators so need less frequent checks.
- Leg-hold or live cage traps must legally be checked every day.
- Traps must use attractive lures/baits to encourage predators in. A combination of visual and odour attractants work best.
- Trap spacing depends on your target animal and habitat situation.
- Target obvious animal runs (tracks) along and under fence lines, bush edges, the side of buildings, along road or track edges, around culverts, bedside streams or log crossings.
- Attention to detail is important. Set every trap like your life depends on it — every time! A trap-shy predator will be hard to catch and so will their offspring.
- Keep traps clean and well maintained.
- Putting traps in place one month or so prior to the trapping operation will reduce the natural caution that predators show towards new objects in their habitat.
- If a trap consistently fails to register a catch, moving it a few metres can make a big difference.
- Take care to ensure that wildlife and livestock cannot be trapped. Where necessary, use trap covers or raised sets to reduce the risk to non target species.

Shooting

Pros

- Useful for possums (other predators can also be targeted, e.g. feral cats).


Possum shooting. Video still: Seven Sharp

- Night-shooting possums in spring is effective when favoured food such as willow or larch buds are just starting.
- Possums are easily detected in 'naked' trees.
- Large areas can be covered quickly.

Cons

- Shooting is ineffective for rodents and mustelids.
- Limited application in bush country.
- Firearms licence required.
- Firing zone and proximity to roads and dwellings needs to be considered.
- Careful selection of firearm is required to ensure humaneness.

Wetlands and riparian zones

Wetlands and waterways are a critical part of any farm. Wetlands are the kidneys of the land, filtering sediments and nutrients. Rivers and streams provide essential water supplies for stock and farm operations. Estuaries and braided rivers are also valuable features in many farming landscapes. All these places provide important habitat or seasonal resources for a range of valued and diverse wildlife, such as waterfowl and other birdlife, fish, eels, and bees.

However, wetlands and riparian habitats are also havens for predators. Rodents, possums and mustelids all favour the protection provided by these areas and their impact on wildlife can be devastating. Wetland and riparian margin pest control needs to target all three types of predator.

Possum control

Option 1

- Night-shoot wetland willows as bud-break occurs in spring. Shoot on 3 or 4 nights over a 2–3 week period. Warm nights are best, especially after rain.
- Follow up with kill traps (Flipping Timmy, Sentinel or AT220) at 100–150m spacings along the inside of wetland and/or stream margin fence-lines.
- Service and re-bait traps every 2–4 weeks, depending on the population.

Option 2

- If pigs are not present, use bait stations 30cm off the ground at 150m spacings on trees, well away from stock access along the inside of fence-lines.
- Use Pestoff Brodifacoum possum baits in Philproof 'mini' bait stations.
- Pulse 700g of bait initially and then 300g of bait per station every 4 weeks from late winter (August) to early spring (until late October).
- Where there are 'non target' species at risk, use 2–3 applications of Feracol or DECAL over the same period, pre-feed with the equivalent non-toxic product for one week before each toxin application.
- Both of these products will also control rats.
- 'Double Tap' pellets are a combination of Cholecalciferol and Diphacinone that can also control rats and possums with reduced non target risks.
- Ensure dogs and livestock **CAN NOT** access any bait.

Rodent control

Traps

- Goodnature A24 automatic resetting traps are ideal. Locate at 75–100m intervals about 10–20cm off the ground on trees away from stock access along the inside of fence-lines.
- Replace CO_2 gas canisters and lure pumps about every 3–4 months.
- Rodent snap-traps can also be used (they are cheaper). Place in small wooden tunnels set up in a similar way to A24 networks. Lure with peanut butter. Check regularly every 1–4 weeks.

Bait stations

- During times of higher rodent populations, bait stations may be more effective. The same network of bait stations as for possums can be used, but extra traps or stations may be required in between to reduce spacing to 50–75m.
- Pulse with Pindone pellets, Ditrac, Contrac or Pestoff (blocks or pellets) monthly, from August to November.
- 'Double Tap' pellets are a combination of Cholecalciferol and Diphacinone that can also control rats and possums with reduced non target risks.
- Ensure dogs and livestock **CAN NOT** access any bait.

Cross section of a bait station

Note: Possums can eat large amounts of Pindone pellets. If you have a CSL then Feratox (encapsulated cyanide) is a good product to reduce this, or place kill traps at bait stations.

Mustelid control

- Use DOC 200 wooden box traps with enlarged openings (4×4 mesh squares) to target weasels and stoats. Larger entrances will catch more pests, but consider non-target species in your local environment.
- If ferrets are present use DOC 250s in wooden boxes. A setting tool is required.
- Place away from stock access at 100–150m intervals along the inside wetland and/or stream margin fence lines.
- Rebait about every 2 weeks with eggs, fresh rabbit (in winter), or Erayz rabbit blocks/paste (a long-life product) in warmer climates. Rebait less in winter and more in spring/summer.
- DOC 200 traps also catch rats and hedgehogs.

The DOC 200 wooden box trap

For all traps and bait stations

- Lure the area around and above each trap or bait station site with scented (peach, vanilla, cinnamon) flour laced with icing sugar, again to increase interest. **DO NOT** put flour on your devices!
- A combination of bait types and trapping over time is best practice to avoid predators adapting to your control methods.
- Make sure grass is controlled at trap or bait station entrances, at least one metre from the entrances. This reduces moisture which causes the bait to go mouldy and makes access easier for predators. Use glyphosate at the start of each season to save time.
- Scuff the ground around traps at each check. This creates 'interest' for predators.

Bush blocks

Bush remnants on farms are often highly valued by farming families — as shown by the number of bush blocks that are fenced off and, increasingly, protected by covenants.

However, predator species pose a huge risk to these areas. Without predator control, these habitats and the native wildlife that depends on them will continue to decline, even with stock exclusion. Rodents, possums and mustelids all favour the protection provided by these areas, so predator control will need to target all three groups.

Possum control

Option 1

- Seasonally night-shoot bush-pasture margins and trees favoured by possums as flowers, buds or fruit come on e.g. pine, willow, larch, and natives (mahoe, cabbage trees, kōwhai).
- Warm nights are best, especially after rain.
- Follow up with kill traps on a 100–150m grid to get uniform coverage of 1 × trap/ha.
- Service and re-bait about every 2–4 weeks, depending on the population.

Option 2

- If pigs are not present, and there is no stock access, use bait stations 30cm off the ground on a similar 100–150m grid.
- Use Pestoff Brodifacoum possum baits in Philproof 'mini' bait stations.
- Pulse 700g of bait initially and then 300g of bait per station every 4 weeks from late winter (August) to early spring (until late October).
- Where there are 'non target' species at risk, use 2–3 applications of Feracol or DECAL over the same period, pre-feed with the equivalent non-toxic product for one week before each toxin application. Both of these products will also control rats.
- 'Double Tap' pellets are a combination of Cholecalciferol and Diphacinone that can also control rats and possums with reduced non target risks.
- Ensure dogs and livestock **CAN NOT** access any bait.

Flipping Timmy possum trap

Rodent control

Traps

- Goodnature A24 automatically resetting traps are ideal for rodents.
- Locate A24 traps on a 75–100m grid, about 100–200mm off the ground on trees.
- Replace CO_2 gas canisters and lure pumps about every 3–4 months.
- Rodent snap-traps can also be used. Place in small wooden boxes set in a similar way to A24 networks.
- Lure with peanut butter.
- Check regularly — every 2–4 weeks.

Bait stations

- During certain times (e.g. mast years) or in places where there are high rodent populations, bait stations may be more effective than traps.
- The same network of bait stations as for possums can be used, but extra stations (or traps) may be required to reduce device spacing to 50–75m.
- Pulse with Pindone pellets, Ditrac, Contrac or Pestoff (blocks or pellets) monthly, from August to November.
- 'Double Tap' pellets are a combination of Cholecalciferol and Diphacinone that can also control rats and possums with reduced non target risks
- Ensure dogs and livestock **CAN NOT** access bait.

Note: Possums can eat large amounts of Pindone pellets. If you have a CSL (Controlled Substance Licence), then Feratox (encapsulated cyanide) is a good product to reduce this, or place traps at bait stations.

Mustelid control

- Use DOC 200 wooden box traps with enlarged openings (4×4 mesh squares) to target weasels and stoats. Larger entrances will catch more pests, but consider non-target species (especially kea, kiwi and weka) in your local environment.
- If ferrets are present, use DOC 250s in wooden boxes. A setting tool is required.
- Place away from stock access at 100–150m intervals along the inside of bush block fences, on game trails, and along stream edges within bush areas.
- For bush areas <10ha no internal traps will be required as stoats will be within 200m of a trap.
- Rebait about every 2 weeks with eggs, fresh rabbit (in winter), or Erayz rabbit blocks/paste (a long-life product) in warmer climates. Rebait less in winter and more in spring/summer.
- DOC 200 traps also catch rats and hedgehogs.

DOC 200 wooden box trap

For all traps and bait stations

- Make sure grass is controlled at trap or bait station entrances, at least one metre from the entrances. This reduces moisture which causes the bait to go mouldy and makes access easier for predators. Use glyphosate at the start of each season to save time.
- Scuff the ground around traps during each check to create 'interest' for predators.
- Lure the area around each trap or bait station site with scented (peach, vanilla, cinnamon) flour laced with icing sugar, again to increase interest. **DO NOT** put flour on your devices!
- A combination of bait types and trapping over time is best practice to avoid predators adapting to your control methods.
- Don't expect new traps, trap boxes or bait stations to catch immediately after placement. Predators have a natural suspicion towards unfamiliar objects and may take a few days to venture near them.

Buildings and storage areas

Buildings, sheds and food storage areas form a valuable part of most farming operations. However, they can also attract large numbers of rodents, so ongoing effort is required with a range of tools to reduce trap or bait shyness.

Traps

- Goodnature A24 automatic resetting traps are ideal for rodents.
- Place A24 traps, 10–20cm off the ground, near food sources or on trees near pump sheds.
- Replace CO_2 gas canisters and lure pumps about every 3–4 months.
- Rodent snap-traps can also be used (they are cheaper). Place in small wooden boxes set in similar places to A24 traps.
- Lure with peanut butter.
- Check regularly every 1–4 weeks.

Bait stations

In areas with higher rodent populations, bait stations may be more effective.

- Use bait stations that contain the bait, so rodents can't carry it away and store it.
- Work on installing one bait station per shed bay/pump shed or one station per 20m^2 for rats.
- Pulse Ditrac, Contrac or Pestoff blocks every 4–6 weeks.
- First generation anticoagulants (Diphacinone, Ditrac) are not generally effective for mouse control.
- Remove old or mouldy bait for careful disposal (check product label for advice).
- Ensure stock **CAN NOT** access bait.
- Caution is required in milking sheds to avoid contamination of milk with pesticide residues.
- Only MPI approved rodenticides may be used in dairy and food preparation premises. Check with your bait supplier to confirm their bait holds this approval.

For more information on predator control specific to your area, we recommend that you contact a predator control expert or your regional council.

Cost

Cost can vary from place to place depending on the scale, terrain, habitat type, ease and type of access, the type of tools being used, pest density and whether labour is voluntary or factored into pest control inputs.

As a rule of thumb, a least two devices per ha will be required for combined rat, possum and stoat suppression. Preferably these should include one trap and one bait station.

Based on the above, up front capital investment in devices will cost between $50–$200 (depending on tools selected) per ha to establish. Operating and maintaining these tools (baits, lure, gas canisters, poisons, maintenance) will cost between $25–$50 per ha, each year. Devices generally have a lifespan of up to 10 years.

In terms of labour, on average a field operator can service 60 devices (30 ha) per day. Landowners may do this themselves, or get their staff to. If they contract the work out contract rates can be on the basis of a 'per device' servicing charge — usually between $3–$6 per device, per service.

Rodent control in sheds and buildings is more device-intense and should be costed separately. Devices should be installed at a rate of at least two per shed or one per 20m^2. A mix of traps and bait stations is always best, alternated over time. Up front capital investment in devices will cost between $20–$200 per shed bay/20m^2. Operating and maintaining these tools (baits, lure, gas canisters, poisons, maintenance) will cost between $20–$40 per shed bay/20m^2, each year. Labour requirements are relatively limited and can be undertaken as part of routine farming operations.

For more information on predator control specific to your area, we recommend that you contact a predator control expert, your regional council or local DOC office.

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