

POSSUM CONTROL

GROUND VS AERIAL

Ninety per cent of possum control is ground-based, 10 per cent is aerially applied 1080

BEST METHOD FOR POSSUM CONTROL

Controlling possums reduces the risk of the disease spreading within the possum population and to livestock. We know if we can keep the possum numbers uniformly low for a long period, we will eventually remove the disease from the entire possum population.

There are a number of control techniques available to possum control contractors, but ensuring the most effective method for the job depends on a number of factors such as the terrain, vegetation, type of previous control work and the control objective for the area.

Hand-laid traps, toxins and ground surveillance accounts for about 90 per cent of pest management work.

The remaining 10 per cent is aerially applied sodium fluoroacetate (1080).

COMPARATIVE COSTS

The average cost for ground control ranges between \$10 and \$26 per hectare annually, and needs to be repeated each year to keep possum numbers at an acceptable level. A variable cost of \$2-\$40 per hectare each year depends on block size, location, the ground control method, and ongoing needs for control.

The cost of aerial operations ranges between \$18 and \$42 per hectare and



While aerial operations attract the most attention, the great majority of pest management work is ground-based.

can be effective for 4-6 years before another operation is required. An average cost per aerial of around \$27 per hectare depends on block size, location, and whether an operation is undertaken collaboratively with another organisation, such as the Department of Conservation.

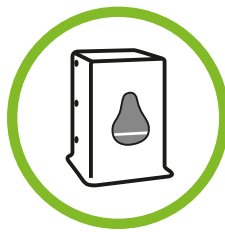
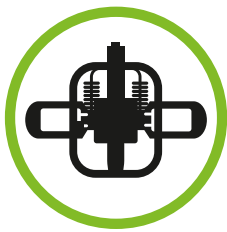
KEEPING POSSUM NUMBERS LOW

Achieving and maintaining low possum numbers for up to a decade is crucial to managing bovine tuberculosis. A fast knockdown of possums over a large area brings the best disease control results.

Ground control is suited to areas with good access and easy-to-moderate terrain. The method is very effective but can be costly, labour-intensive and can take a long time to get possums low, which allows TB to persist for longer.

Aerial control has historically proven to quickly reduce possum numbers to consistently low levels over large areas. GPS guidance provides accurate coverage which can be easily and effectively audited. Aerial control has been a major factor in the removal of TB from wildlife over large areas of bush in the North and South Islands.

Ground and aerial control are often complementary, and both methods are timed to coincide and thereby improve the outcome of possum control in an area. Aerial control will normally occur first, quickly followed by ground control on adjacent land that is better suited to this method, such as farmland. While this adjacent control removes possums it also reduces re-invasion from the farmland into the aerially controlled area, extending the length of effective control.



BEST CHOICE: GROUND OR AERIAL?

The key to effective control is using the appropriate method for the job. The choice is driven by a number of factors.

Aerial control is best for large, rugged, difficult-to-access terrain covered with dense vegetation. Areas of native forest/scrub and exotic forest are most often treated aerially. In the South Island, large tussock landscapes with few tracks that hold TB-infected possums are also aerially treated. While some areas such as exotic forest are often accessible and well tracked, their size makes ground control less effective, fragmented and time-consuming.

Cost is also a factor that must be carefully considered – the TBfree programme's reduced funding model also influences the choice between expensive ground control and more cost-effective aerial control.

To summarise, the range of factors taken into consideration when choosing ground or aerial control include:

- effectiveness of control method
- terrain/topography of target area
- vegetation type and coverage
- wildlife presence
- size of the area
- health and safety risks
- general accessibility
- history of pest control work
- cost

BUFFER ZONES FOR AERIAL OPS

Sensitive areas are excluded from aerial control and, depending on their size and shape, ground-based methods may be employed. This can result in an increased cost per hectare. Sensitive areas, such as tracks, waterways,

community facilities and other areas identified during consultation or the Public Health Unit consent process, are often excluded.

When consented boundaries are straight lines over even terrain, aerially applied baits are laid 100m back from the boundary in standard applications. When boundary areas are more complex, baits are accurately trickle-fed 50m from the boundary.

TOXIN RATES FOR POSSUM CONTROL

Over the past 30 years, aerial sowing rates have reduced significantly, from 30kg per hectare in the 1970s to 1.5-2kg per hectare today. This reduces the amount of pellets remaining after targeted pests have consumed baits, leaving less for non-target animals. Low bait rates also reduce the flying hours required, saving on costs.

Prefeeding with non-toxic pellets reduces potential bait shyness, encourages bait-seeking behaviour in target species, decreases the amount of toxic bait required and overall improves control outcomes. Toxic pellets containing 0.15% 1080 is the most common toxic rate used, and at the 2kg per ha, equates to approximately five to six baits over an area the size of a tennis court.

Two different methods are used for ground operations – traps and poison. Trapping methods can be either live capture or kill. Poisons are typically used in bait stations, stapled to trees in biodegradable bags or hand laid.

CONSENT PROCESSES

The Environmental Protection Agency has delegated the function of granting permissions for the use of vertebrate toxins (1080, cyanide, phosphorous, and MZP paste) to Medical Officers of Health and Health Protection Officers, who are warranted under the HSNO Act.



Ground control and surveillance methods are effective, but time consuming and labour intensive.

A public-risk assessment must be completed for the Public Health MOH consent. This must include an assessment of risk to public health (Hazard identification, dose response, exposure assessment and risk characterisation), risk communication and risk management.

Any operation to be undertaken on DOC land requires an Assessment of Environment Effects (AEE) to be completed and possibly a permit obtained.

Aerial 1080 operations have strict requirements including consultation, consent approvals and independent regulations for quality assurance before, during and after the operation.

Consents are required from landowners and organisations which regulate access prior to any operation. The public is also consulted before every aerial operation.

CONSULTATION PROCESS

For a detailed illustration of consent processes for TBfree pest control operations, please refer to accompanying factsheets and refer to OSPRI's annual TBfree Pest Control Operations consultation document [here](#).