

POSSUM CONTROL – HANDLAYING PHOSPHORUS PASTE (CONTROLLED SUBSTANCES LICENCE REQUIRED)

BAIT

- Use phosphorus at 9.5 g/kg i.e. [Phosphorised Possum Paste Double Strength](#). The paste should contain a lure (i.e. cinnamon, orange).
- Only freshly manufactured bait should be used. Do not store for more than 8 months [1]. This ensures high bait palatability, which has a direct influence on success.

BAIT APPLICATION

- Lay out on grids by GPS or, in rough terrain, place on ridges and spurs with additional lines located on 100 m contours using an altimeter. Inaccurate location of lines will cause gaps in coverage where pockets of high possum numbers can persist.
- Place 10 - 20 g of non-toxic prefeed paste every 3-5m along transects no more than 150m apart in forest habitats. The aim is to have a lethal dose in every bait, so possums only need to find one bait to be killed.
- Additional baits should be placed in possum preferred habitat. Average home range of male possums is 1.9ha and females is 1.3 ha [2].
- The paste can be laid on upturned earth-spits (for easy relocation) on pastoral land or at marked baiting points in forest.
- Pre-feed for 4 days: prefeeding increases possum kills as it reduces wariness (neophobia) of possums to toxic bait [3,4] and reduces the risk of bait aversion developing [5,6]. Prefeeding may need to be extended during wet weather which reduces possum activity on the forest floor [7,8].
- At end of the pre-feeding, remove/destroy the non-toxic paste and, at sites where prefeed was eaten, replace with 15 g of phosphorus paste. Toxic bait can be presented on earth spits on pastoral land or in small bait stations (e.g. KK) in forest. Presenting pre-feed and toxic bait simultaneously must be avoided as it can result in possums being sub-lethally poisoned and becoming bait shy.
- Where non-toxic paste has been eaten from consecutive baiting points, lay additional toxic baits to ensure sufficient bait is available where possums are present.
- Do not leave the toxic bait out for more than 4 days [1]. Phosphorus baits rapidly dehydrate in hot dry weather and may ignite spontaneously.
- At the end of the operation all uneaten phosphorus paste must be buried to remove the hazard and prevent sub-lethal dosing of possums from weathered bait.

SUSTAINING POSSUM CONTROL OVER THE LONG TERM

- Monitoring conservation outcomes is essential to judge effectiveness of the control programme. Control operations are useless unless outcomes are achieved.
- Pre- and post-operational monitoring is essential to determine the effectiveness of the operation. A comparison of pre- and post- data gives the most robust estimate of the kill result. Post- data cannot reliably be compared between operations.
- Reinvasion of possums into controlled areas can be reduced by using natural boundaries e.g. waterways and pasture, and buffer zones of at least 3km wide [9].
- Alternating bait types, toxins, lures and techniques are important in ongoing control programmes. Continuous use of a single pesticide use is not recommended.

- Phosphorus paste is best used when controlling medium/low possum populations rather than high population numbers.

LIMITATIONS

- The method is labour intensive.
- Labour costs increase in difficult terrain.
- There is no knowledge of the impacts of phosphorus paste on native non-target animals in forest ecosystems.
- Phosphorus presents a risk to dogs if they eat bait or carcasses [10], and birds if they eat carcasses [11].
- Phosphorus paste should not be used at dry sites or in hot, dry weather. Phosphorus baits rapidly dehydrate and may ignite spontaneously.
- Efficacy is not proven in non-pastoral habitat.
- Phosphorus is highly toxic to humans which may lead to restrictions on use in highly public areas.

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