PESTSMART

Baiting for fox control

Introduction: Poison baiting is currently the most effective broad-scale method of fox control. Toxins used against foxes in Australia must be registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). Baits can only be obtained through licensed officers or designated government agencies in each state and territory, and there are strict guidelines relating to the use and placement of baits. Some states require specific chemical training to have been completed, so it is advisable to check specific requirements with your local agency.

Ground baiting is the main technique used. This involves burying baits along tracks, fence lines and other areas where foxes are known to travel. In remote, sparsely populated areas, government agencies are permitted to use aerial application of baits.

How specific are baits for foxes? Baits target foxes over other species in three ways:

- through the toxin
- through the bait substrate
- by bait presentation

Foxes are particularly sensitive to 1080 (sodium mono-fluoroacetate), the most commonly used toxin, and the newly developed PAPP (para-aminopropiophenone, not commercially available at time of printing). This allows a low dose rate to be used for these baits, making them more specific for foxes and less harmful to non-target species. Red meat, chicken and commercially developed baits, such as Foxoff® (Animal Control Technologies), De-Fox™ (Paks National Pty Ltd) and Pro-bait (Western Australia Department of Environment and Conservation), are sometimes preferred because of their palatability to foxes and relatively high target specificity. The practice of burying baits also helps target foxes: the fox readily digs and consumes buried food items, but few native animals are inclined to excavate and eat buried baits.

Baits should be buried to avoid been taken by non-target animals. Image: NSW DPI

When is the best time to bait? The most effective time to bait is usually during late winter and spring when fox populations are at their lowest. This is generally just before breeding and is directly followed by a time of high food demand, when the young cubs are being reared. At other times, especially in autumn, foxes are more mobile and tend to re-establish quickly into vacant territories. Baiting may need to be repeated more often at these times to achieve effective results.

How often should I bait? Baiting programs have been shown to be most effective when done twice a year. This causes maximum disruption to both the breeding (late winter/spring) and migration (autumn) stages of the fox's life cycle.

How should the baiting be done? For maximum success, baits should be available to foxes for at least ten days. They should be checked at least every two days, and replaced until no more are being taken. Baits should be placed at strategic points along tracks and fence lines where foxes regularly travel, or near carcasses or other attractants, allowing for distance restrictions from residences and boundaries.

Baits should be buried 5—10 cm deep or tethered (in Queensland and Western Australia only), at 200-500 m intervals, with a total of about five baits laid for each square kilometre. The positions of baits should be marked with tape or pegs so they can be easily checked later. Lures and scents can be used to attract the foxes, although continuous scent trails should be avoided.

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Is baiting with a group worthwhile?

Yes. Group baiting programs, involving cooperation among neighbouring landholders and the community, can both lower the costs of baiting and help reduce the level and speed of fox reinvasion.

How much does a baiting program cost?

The cost of a program will vary depending on the size of the property, the number of foxes, and the number of neighbours participating. Costs generally range from $0.40 to $1.00 per hectare. Your local agency should be able to provide advice on the most cost-effective way to bait foxes in your area.

How do I know if the baiting has worked?

Dead foxes are seldom found after a baiting program, giving the false impression that the program was not effective. If correct baiting procedures are followed, the number of baits taken can give an indication of the number of foxes killed. Fox population monitoring techniques (eg remote sensing cameras, sand pads, spotlight counts) can be used, monitoring changes in the population of prey species (eg wildlife, lambs) will give a better indication of the program's success.

Foxes are known to store their food for later. Will this affect my baiting program?

Foxes are known to cache surplus food to secure a meal when food is scarce. This behaviour can have a major effect on the effectiveness of a baiting program by decreasing the number of available baits. This behaviour also increases the poisoning risk to non-target species, since the location of baits becomes unknown after they are moved by foxes. The best way to deal with this problem is to take note of multiple bait takes in one location and, if caching is suspected, stop replacing the baits in that spot.

Warning signs need to be displayed at entry points and prominent positions when conducting fox baiting.
Image: NSW DPI

Are fox baits safe for the environment?

Both 1080 and PAPP are considered environmentally safe, as they break down relatively quickly, and are neither mobile nor persistent in the soil.

Does fox baiting pose a risk to native animals?

Following best practice baiting methods is important to maximise the effectiveness of any baiting program and minimise the risk posed to non-target animals, regardless of which type of bait is used. Burying the baits helps eliminate the risk to most non-target species, including birds. Baits should not be laid in areas where native predators, such as goannas and quolls, are known to be active. If in doubt, the area should be monitored before baiting, using non-toxic baits and sand pads or remote sensing cameras.

Why do I need to collect uneaten baits at the end my program?

Baits and toxins decay over time so the potential exists for foxes to consume sub-lethal doses. Bait aversion results when a sub-lethal dose of toxin is consumed, making the fox ill instead of killing it. Removing all uneaten baits at the end of a program is important to reduce the risk of bait aversion as well as to prevent poisoning of non-target species.

How can I protect my pets?

The best way to protect pets is to make sure they do not have access to areas where baits are stored or laid. Domestic dogs are just as susceptible to baits as foxes, so they need to be restrained both during a baiting program and in the weeks directly following it.

Further information:

Mitchell B and Balogh S (2007). *Monitoring techniques for vertebrate pests: Foxes*. Bureau of Resource Sciences, Canberra.

Sharp T (2012). *Standard operating procedure: ground baiting of foxes with 1080 (FOX001)*. Invasive Animals CRC.

Sharp T (2012). *Standard operating procedure: aerial baiting of foxes with 1080 (FOX002)*. Invasive Animals CRC.

PestSmart Factsheet: Frequently asked questions about PAPP (WDFS7, 2013). Invasive Animals CRC.