

WILD DOG CONTROL

1080 – Sodium fluoroacetate

1080 is the common name for sodium fluoroacetate, a synthetic salt of fluoroacetic acid. It is used to control wild dogs, feral pigs, foxes, feral cats, and wild rabbits in Queensland. It occurs naturally in a number of native Australian plant species. It is a colorless, odorless and tasteless white powder that is diluted with water to concentrations specific for the species being targeted. 1080 is a restricted chemical product also known as an S7 poison.

How to access 1080

In Australia, 1080 supply and use is highly regulated. It is a restricted (S7) chemical product and can only be supplied to persons who are authorised to use the product under the laws of a State or Territory. Each State or Territory has strict regulations for the manufacturing, labelling, handling, storage, supply, use, retrieval and disposal of 1080 baits.

Use of 1080 is subject to strict regulatory control:

Minimum distances:

- No baits are to be laid within 5m of a fenced boundary.
- No baits are to be laid within 50m of the centre line of a declared road.
- No baits are to be laid within 20m of permanent or flowing water bodies.

Neighbour notification:

- Before baits are laid, the bait user must give at least 72 hours notice, either verbally or in writing, to all neighbours whose property boundary is within 1km of the proposed baiting site, as well as those whose property adjoins or fronts the holding either across a road or a waterway.
- Notwithstanding the above all habitation occupiers (including schools, dwellings and public facilities, but not including the dwelling of the person laying the baits) within 1km of the bait site are to be notified in writing.
- The notification must specify the dates between which baiting will occur. If baiting does not commence within 10 days of notification, another 72 hours notice is required.

Signage

Signage is required for all land on which baiting occurs.

- The owner must ensure that signs are put up immediately before any 1080 baits are put out on the property.
- The signs must be placed at all entrances to the property and at the extremities of property boundaries that front a public thoroughfare. This must be done even if the adjoining property is carrying out 1080 baiting.
- Signs must remain in place for a period of 4 weeks after baits are laid and permanent signs are required for ongoing or extended baiting program.

Toxicity of 1080

Dogs and foxes are highly susceptible to 1080, and the small amount required to target these species posts a

rabbits are also susceptible, although higher doses are required.

How 1080 works

Acetate is an essential component in the diet of animals. However, the addition of fluorine makes the substance toxic, as fluoroacetate makes the substance toxic, as fluoroacetate interferes with the citric acid (Krebs) cycle. In mammals, fluoroacetate poisoning can cause death in a number of ways.

Carnivores (dogs, cats, foxes) generally suffer failure of the central nervous system; herbivores (rabbits, cattle, sheep) suffer heart or lung failure; and in omnivores (pigs) the central nervous system, heart, or lungs can fail.

Minimising risks

To minimise the impact on non-target species, bait materials are impregnated with concentrations of 1080 specific to the target species. The concentration used depends on:

- The lethal dose rate required
- Body weight
- Amount of bait likely to be consumed.

The potential danger to non-target species is further minimised by:

- Using a specific bait type
- Estimating likely bait consumption
- Placing bait appropriately (including burying or otherwise concealing it)
- Bait tying – where a bait is tied with wire then tied onto stakes or nearby vegetation. This prevents birds and goannas from taking the bait
- Stipulating a minimum bait size
- Using an appropriate strength of fluoroacetate.

Advantages

The single greatest advantage of 1080 over other vertebrate poisons is that it is much more target-selective. As dogs are highly susceptible to it, they require much less for a lethal dose than many other animals. This target-specificity, and the fact that it does not persist in the environment, make 1080 an effective toxin for controlling vertebrate pests.

Disadvantages

The single greatest disadvantage of 1080 is that there is no known antidote for sodium fluoroacetate poisoning, so working dogs and domestic dogs can be killed if they eat a bait. Due to the time it takes for the fluoroacetate to be absorbed and to disrupt the Krebs cycle, the onset of symptoms can be delayed anywhere from 30 minutes to 20 hours depending on the species and the individual animal.

The best protection for working dogs is plan ahead, use muzzles, and restrain working dogs when they are not working.

Persistence in the environment

Fluoroacetate is rapidly broken down into harmless compounds in natural soil and water systems.

Symptoms of poisoning

Key symptoms commonly used to assign 1080 poisoning as the case of death in a dog are vomiting, convulsions, coma and death. Despite the distressing symptoms, anecdotal evidence from human poisoning cases overseas suggests that there is little, if any, pain associated with 1080 poisoning.

Further information

For further information please contact our office on (07) 4992 9500, or by contacting Biosecurity Queensland (13 25 23).





