Rodenticides and Wildlife

What are anticoagulant rodenticides?

Anticoagulant rodenticides are mouse and rat poisons which work as blood thinners. A lethal dose can cause an animal to die by excessive bleeding from small cuts or internal bleeding and bruising. They are especially effective at killing rodents because they don't make the rodent feel sick until several days after it has eaten a lethal dose.

Unfortunately, this can create a serious problem for native animals which may eat the dead and dying rodents. Poisoned mice and rats have slower reaction times, spend more time in open areas and are more active during the day (Cox & Smith, 1992). All of these behaviours make rodents easier prey and increase the chance that a predator will catch them. Some of the newer "second generation" anticoagulant rodenticides take a long time to break down. They can remain in the liver for long periods of time – sometimes well over a year. This allows them to move up the food chain and accumulate in the bodies of predatory birds, such as Southern Boobook owls and mammals which eat poisoned rodents.

Photos: Both of these Southern Boobook owls died of anticoagulant rodenticide poisoning. One bled to death from a small cut on its leg and has an extremely pale liver and heart (left). The other boobook died of internal bleeding (right). Source: Michael Lohr.

What wildlife species are at risk?

Some species like native rodents and quenda (bandicoots) can be poisoned if they directly eat baits set for mice and rats but other species which do not directly eat the baits are at risk too. Worldwide, owls, eagles, hawks, foxes and even bobcats and mountain lions have been killed by rodenticides that have accumulated in their prey (Riley et al., 2007). Pets like cats and dogs are also at risk of being poisoned (Robertson, Leggoe, Dorling, Shaw, & Clark, 1992).

Other alternatives

There are a number of ways you can reduce the need to use rodenticides. One of the most effective methods is simply cleaning up a bit. Removing rubbish from your yard, keeping pet food indoors, picking up fallen fruits beneath your fruit trees and using chicken feeders which prevent spillage removes potential rat and mouse food from the environment around your house. It is one of the most effective first steps and can make a huge difference to the number of introduced rodents around your property. Cleaning up brush piles and sealing holes in your walls and roof reduces the amount of rodent habitat and helps keep them out of your home. Replacing palms with native trees can be a big help too. It not only removes one of the favourite hideouts for black rats (*Rattus rattus*), but also provides better habitat for the native predators like owls and hawks which help control rodents. If rodents are still a problem, then old fashioned snap traps baited with peanut butter are also very effective if placed along edges of walls and corners where rodents usually travel.

Read the label to save lives

If you do decide to use rodenticides, then it's important to know which ones you are using. Warfarin and coumatetralyl are "first generation" anticoagulant rodenticides which break down much faster than other rodenticides and are less likely to cause poisoning in native wildlife like hawks and owls which eat poisoned rodents. Most rat and mouse poison packaging doesn't make it obvious which rodenticides are used in the product. The actual rodenticide contained in the baits will be after the words "Active Constituent." If you do choose to use these products, be sure to follow the directions on the label to help reduce the risk of unintentionally poisoning wildlife.

References

Cox, P., & Smith, R. H. (1992). Rodenticide ecotoxicology: pre-lethal effects of anticoagulants on rat behaviour. In *Vertebrate Pest Conference Proceedings collection* (pp. 165–170). Lincoln, Nebraska.

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