

A preliminary assessment of the potential hazards of the anticoagulants diphacinone and brodifacoum to arboreal salamanders.

Invasive rodents cause much damage to island ecosystems and anticoagulant rodenticides are an essential tool for the eradication of invasive rodents on islands. However, anticoagulant rodenticides may pose hazards to non-target animals. This can occur through the direct consumption of the rodenticide material or from indirect exposure in which case the non –target animal consumes prey (rodents or insects) or scavenges on dead rodents that have previously consumed the anticoagulant bait. We propose a study, using live-captured or purchased salamanders to do a preliminary assessment of the potential hazards of two anticoagulants to those animals. Three routes of exposure would be examined: 1) allowing salamanders to feed on crushed anticoagulant pellets (direct internal exposure), 2) allow the salamanders to consume insects that have fed upon anticoagulant pellets (indirect internal exposure, and 3) spraying salamanders with water that has been used to soak anticoagulant pellets (direct external exposure). These studies would be conducted at the USDA National Wildlife Research Center in Fort Collins, Colorado, under an IACUC-approved study protocol. The budget needed for the study would be about \$45,000 to fund staff, provide equipment and supplies, support animals care staff and needs, and the required indirect costs. Additional funds will be necessary if chemical analyses for rodenticide residues are required. The study could probably be completed by the end of the federal fiscal year (Sept. 3, 2016).

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