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OFFICE OF
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Data Review

Subject: Diphacinone Secondary Hazard Study (MRID 469119-01)

To: Kelly Sherman, RMR 51
Reregistration Branch 1
Special Review and Reregistration Division

From: W. Erickson, Biologist
T. Bailey, Branch Chief
Environmental Risk Branch 2
Environmental Fate and Effects Division

Handwritten signatures of W. Erickson and T. Bailey.

EFED has reviewed the following diphacinone secondary hazard study submitted by Scimetrics Ltd., Corp., Wellington, CO:

Secondary Hazard Study Using Diphacinone-killed Rodents Fed to Domestic Ferrets (*Mustela putorius furo*). July 11, 2006. Study performed by Genesis Laboratories, Inc., Wellington, CO (J. J. Mach, Study Director). EPA MRID 469119-01.

The stated objective of the study “. . . was to determine if a primary rodent fed diphacinone bait in a laboratory test pose a secondary hazard to domestic ferrets that consume the rodent carcasses.” The following four diphacinone baits were fed to Norway rats which in turn were fed to ferrets to determine secondary hazard:

- PCQ Pelleted Rodent Bait (100 ppm diphacinone)
- Kaput-D Pocket gopher Bait (50 ppm diphacinone)
- Scimetrics Formulation-1 (25 ppm diphacinone and 200 ppm imidacloprid)



- Scimetrics Formulation-2 (10 ppm diphacinone, 200 ppm oxytetracycline, and 200 ppm imidacloprid)

Groups of rats were fed one of the four baits until death. Dead rats were skinned, tail removed, and the remainder ground and thoroughly mixed. Ferrets were fed the ground rat mix for five days in no-choice feedings. Food consumption was measured. Ferrets were monitored for an additional 9 to 10 days (or until death) after the 5-day exposure period.

Four (3 male, 1 female) of the eight treated ferrets died 3 to 4 days after completion of the exposure period. Both ferrets exposed to rats fed 100 ppm diphacinone bait died, one of two ferrets died from eating rats exposed to 50 ppm bait, and one of two ferrets died from feeding on rats that had been poisoned with the Scimetrics Formulation-2. Both ferrets survived from feeding on rats poisoned with Scimetrics Formulation-1. The Study Director concludes that mortality was affected by the amount of secondary consumption of rats and by sexual dimorphism and that currently registered diphacinone baits (50 and 100 ppm) have a negative affect on domestic ferrets. He also states that a more detailed study needs to be conducted.

EFED believes that the data are too preliminary to make any sound conclusions. Because only two ferrets were exposed to rats poisoned with each of the four baits, and because the Scimetrics Formulations are not registered products, EFED considers this to be a screening and is not categorizing its acceptability. EFED agrees that a more detailed study is needed to determine the impacts of these four baits on secondary exposure and effects to ferrets as a surrogate species for mammalian predators and scavengers that may eat poisoned prey.