



studies to obtain new animal drug approval for use in white-tailed deer management. NWRC hopes to submit GonaCon™ for FDA approval in 2006. Another oral contraceptive compound, Diazacon, is under study for use with rodents and birds. In addition, APHIS holds INADS for two immobilizing agents, alpha-chloralose and propiopromazine hydrochloride. Alpha-chloralose is used to remove problem birds in urban and suburban

settings. NWRC and WS Operations are working with the International Crane Foundation to secure FDA approval to use alpha-chloralose to capture sandhill cranes damaging agricultural fields. Propiopromazine hydrochloride is a tranquilizer used in conjunction with leg-hold predator traps to sedate captured animals, thereby reducing self-inflicted injury prior to the animals' removal from the trap.

Vertebrate control products currently registered or approved for use by USDA APHIS		
Regulated Products	Species Controlled	Uses Unique to APHIS
RODENTICIDES		
Zinc Phosphide (3 products)	Voles, mice, rats, hares, woodchucks, ground squirrels, muskrats, nutria, prairie dogs	Some
Strychnine (4 products)	Pocket gophers	No
Gas Cartridge (1 product)	Prairie dogs, ground squirrels, woodchucks, marmots	Some
PREDACIDES		
Large Gas Cartridge (1 product)	Coyotes, red foxes, striped skunks	Yes
M-44 Cyanide Capsules (2 products)		Some
Compound 1080 (Livestock Protection Collar)	Coyotes	Yes
AVICIDES AND AVIAN REPELLENTS		
Compound DRC-1339 Concentrate (4 labels)	Gulls, pigeons, ravens, crows, magpies, starlings, blackbirds	Yes
Compound DRC-1339 Concentrate—Feedlots	Blackbirds, starlings, grackles, cowbirds	Some
Mesuroil Aversive Conditioning Egg Treatment	Crows, ravens	Yes
SNAKE TOXICANT		
Acetaminophen	Brown treesnakes	Yes
IMMOBILIZING AGENTS		
Alpha-chloralose	Geese, ducks, coots, pigeons, ravens	Yes
Tranquilizer Trap Device (Propiopromazine HCL)	Wolves, coyotes, feral dogs	Yes
CONTRACEPTIVE AGENTS		
Porcine Zona Pellucida	Deer, coyotes, prairie dogs, other rodents	Some
Gonadotropin-releasing Hormone	Deer, coyotes	Yes
Diazacon	Prairie Dogs	Yes
Unregulated Products	Species Controlled	Uses Unique to APHIS
REPELLENTS		
Cinnamon, Clove and Anise Oils	Brown treesnakes	Yes
EGG-OILING AGENT		
Corn Oil	Canada geese	Yes

**Groups Affected by This Problem:**

- Urban and suburban residents
- Farmers, ranchers, and livestock producers
- Natural resource managers

**Major Cooperators:**

- Wildlife Services operations
- U.S. Fish and Wildlife Service
- Private rodenticide registrants
- U.S. Department of Defense

**Selected Publications:**

- Eisemann, J. D.; Petersen, B. E.; Fagerstone, K. A. 2003. Efficacy of zinc phosphide for controlling Norway rats, roof rats, house mice, *Peromyscus* spp., prairie dogs and ground squirrels: a literature review (1942-2000). In: Fagerstone, K. A.; Witmer, G. W., eds. Proceedings of the 10th wildlife damage management conference; 6–9 April 2003; Hot Springs, AR. Fort Collins, CO: The Wildlife Damage Management Working Group of The Wildlife Society: 335–349.

- Eisemann, J. D.; Pipas, P. A.; Cummings, J. L. 2003. Acute and chronic toxicity of compound DRC-1339 (3-chloro-4-methylaniline hydrochloride) to birds. In: Linz, G. M., ed. Management of North American blackbirds. Proceedings of a special symposium of the Wildlife Society 9th annual conference. 27 September 2002; Bismarck, ND. Fort Collins, CO: U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services, National Wildlife Research Center: 49–63.
- Eisemann, J. D.; Petersen, B. E. 2002. Human poisonings and rodenticides: evaluation of incidents reported to the American Association of Poison Control Centers. In: Timm, R. M.; Schmidt, R. H., eds. Proceedings of the 20th vertebrate pest conference; 4–7 March, 2002; Reno, NV. Davis, CA: University of California, Davis: 290–294.
- Eisemann, J. D.; Linz, G. M.; Johnston, J. J. 2001. Non-target hazard assessment of using DRC-1339 avicide to manage blackbirds in sunflower. Pages 197-211 in Johnston, J. J. Pesticides and wildlife. American Chemical Society Symposium Series 771. American Chemical Society, Washington, D.C.
- Mayes, M.; Eisemann, J. D.; Baril, A.; Hawkes, T.; Heijink, L.; Lawlor, P. 2001. Case study 1: foliar insecticide I. Pages 45-60 in Hart, A.; et al. eds. Avian effects assessment: a framework for contaminant studies. SETAC Press, Pensacola, Florida.