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#16  
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## **VERTEBRATE TOXICANTS/FUMIGANTS**

### **General Good Management Practices And Use Recommendations**

In order to minimize the risk of primary or secondary exposure of non-target species, particularly threatened or endangered species, it is important to implement the following basic practices with any rodenticide use:

#### **1. BAIT STATION USE AND MONITORING**

Bait stations shall be secured to prevent tipping and access by non-target animals. While treated baits are in use, bait stations shall be inspected for spillage, evidence of disturbance by non-target animals, excess moisture from irrigation systems, etc. Problems shall be corrected before baiting is resumed. Any spilled baits shall be promptly cleaned up. Bait stations shall be replenished with treated baits as needed to provide continuous exposure. After treated baits are accepted, as evidenced by consumption of baits, depletion of bait in the bait station shall be inspected at least weekly until feeding ceases. Treated baits shall be promptly removed from all stations after feeding has ceased. If subsequent baiting is needed, a two week period without use of treated baits shall be observed before baiting is resumed. This is to keep the period when treated bait is exposed to a minimum without jeopardizing good pest control.

#### **2. CARCASS SURVEY AND DISPOSAL**

Carcass surveys and carcass disposal shall be performed in the treatment area beginning on the third day following initial exposure of toxic baits. Any exposed carcasses shall be disposed of (e.g., completely buried) in a manner inaccessible to wildlife. Carcass surveys shall continue for at least 5 days after toxic baiting has ceased and thereafter until no more carcasses are found. Carcasses should be handled with care to avoid contact with parasites such as fleas. Carcass surveys are intended to be incorporated as part of any pest control program which employs a toxicant where residual in the carcass may pose a risk of secondary exposure to non-target species. These would include such materials as Avitrol, Strychnine, and the anticoagulants (Chlorophacinone, Diphacinone). Zinc Phosphide, at this time is not considered to pose a risk of secondary exposure.

#### **3. ANTICOAGULANT TREATED BAITS**

In order to minimize the excess body burden of anticoagulants in target rodent species, only 0.005% treated baits should be used in bait stations where the target species has the ability to feed ad libitum. Use of 0.01% treated baits should be confined only to broadcast applications.

**AMERICAN PEREGRINE FALCON:**

Based on the food habits of this species, the peregrine falcon appears to be at risk from secondary exposure to avitrol.

**Recommended Use Restrictions:**

Avitrol

1. Because the American Peregrine Falcon might prey on pigeons which have consumed avitrol treated grain, do not use avitrol as part of a control program within 1 mile of a peregrine nesting site.
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**BANK SWALLOW:**

Based on its habitat needs, the bank swallow may be at risk from exposure to burrow fumigants. These fumigants include: aluminum and magnesium phosphide; sodium and potassium nitrate (smoke cartridges); acrolein, and methyl bromide.

**Recommended Use Restrictions:**

Burrow Fumigants

1. Do not use burrow fumigants within occupied nesting colony sites.
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**SWAINSON'S HAWK:**

Based on the food habits of this species, the Swainson's Hawk appears to be at risk from secondary exposure to either avitrol or the anticoagulants (chlorophacinone, diphacinone). A review of the scientific literature has revealed several instances of secondary exposure of raptors to anticoagulants.

**Recommended Use Restrictions:**

Avitrol

1. Because Swainson's Hawks might prey on convulsing birds, do not use avitrol adjacent to hawk nesting sites or in areas know to be frequented by this species.

Chlorophacinone, Diphacinone

1. A carcass survey and disposal program, as outlined in Good Management Practices section 2, should be implemented within occupied habitat.

GUIDELINES FOR POISON RODENT BAIT  
PERMIT ISSUANCE/PRIVATE APPLICATOR CERTIFICATION

**Zinc Phosphide Bait Use Requirements**

1. Toxic baits shall be stored in an adequately locked space at all times when not in use. Such space shall be entirely separate from where food or drink for humans or domestic animals is kept or stored.
2. All persons handling toxic bait should know:
  - a) Characteristics of the materials.
  - b) Necessity of using adequate protective clothing--Gloves and/or bait spoons when dispensing bait.
  - c) Necessity for keeping all skin abrasions and cuts adequately protected.
  - d) The possibility of inadvertent poisoning of wildlife and domestic animals by improper bait exposure.
  - e) The symptoms of poisoning in man and the recommended first-aid.
3. To prevent the accidental spillage of this toxic grain, containers should be so designed and in such repair that leakage or spillage does not occur.
4. Toxic bait accidentally spilled should be immediately and thoroughly cleaned up.
5. Do not leave containers or prepared bait unattended or where it can be obtained by children, irresponsible persons, or animals.
6. Burn empty bait containers.
7. Wash hands with soap and water after handling poison baits and before eating or smoking.
8. Toxic grain baits should not be used for above ground rodent control in areas inhabited by the Aleutian Canada Goose, west of the Sacramento River, south of Highway 162 and east of Interstate 5, between October 1st and March 1st.

USE ACCORDING TO LABELS

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**Zinc Phosphide treated grain (1.00%) baiting procedure NOTE: DO NOT USE IN A MANNER THAT WILL CONTAMINATE FEED OR FOODSTUFF.**

Ground Squirrels - Evenly scatter a tablespoon quantity of bait (about 60 baits per pound) on bare ground to cover 2 to 3 square feet at side or behind each active burrow. Do not over bait and do not place bait in piles.

Norway Rats - Roof Rats - (with reference primarily to farms and other agricultural or field use)-Place a teaspoon quantity of bait (about 80 per pound) in each active burrow or scatter a small amount of bait in protected places frequented by rats, but inaccessible to livestock, poultry, wildlife and children. Whenever practical, prebaiting several days before applying this bait will achieve better control and will have an indication on how much toxic bait to put out. Prebaiting should always be conducted where natural food is abundant. DO NOT retreat with Zinc Phosphide baits for mouse or rat control for at least 3 months and preferably 6 months.

Meadow Mice - Cotton Rats - Lightly scatter teaspoon quantities of bait (about 80 baits per pound) in runways near active burrow.

Wood Rats - Scatter small amount of bait (about 5 grams) over one square foot of ground in runway near or leading in the entrance of the den.

GUIDELINES FOR POISON RODENT BAIT  
PERMIT ISSUANCE/PRIVATE APPLICATION CERTIFICATION

**Strychnine Rodent Bait Use Requirements**

1. Above ground use has been banned by EPA as of December 1, 1988. Below ground use (Gopher Control) can still be made.
2. Toxic baits shall be stored in an adequately locked space at all times when not in use. Such space shall be entirely separate from where food or drink for humans or domestic animals is stored.
3. All persons handling toxic bait should know:
  - a) Necessity of using adequate protective clothing--gloves and/or bait spoons when dispensing bait.
  - b) Characteristics of the materials.
  - c) Necessity for keeping all skin abrasions and cuts adequately protected.
  - d) The possibility of inadvertent poisoning of wildlife and domestic animals by improper bait exposure.
  - e) The symptoms of poisoning in man and the recommended first-aid.
4. To prevent the accidental spillage of this toxic grain, containers should be designed and in such repair that leakage or spillage does not occur.
5. Toxic bait accidentally spilled should be immediately and thoroughly cleaned up.
6. DO NOT leave containers or prepared bait unattended or where it can be obtained by children, irresponsible persons or animals.
7. Burn empty bait containers.
8. Wash hands with soap and water after handling poison baits and before eating or smoking.
9. FOR AGRICULTURAL USE ONLY - NOT FOR HOME AND GARDEN USE.

\_\_\_\_\_ **Mechanical Burrow Builder Gopher Control** Use a mechanical burrow builder to make artificial burrows 20 feet apart across the field at the same depth as natural burrows. The machine drops bait automatically at 9 to 12 inch intervals in these tunnels. One to two pounds of bait will treat one acre. Consult the machine operating manual for specific instructions such as rate of application and operational or adjustment procedures.

\_\_\_\_\_ **Hand Applied Gopher Control - Hand baiting (probe method):** A probe is used to locate main runways so bait can be placed underground where pocket gophers will find it. Runways usually go in a straight line between two mounds at a depth of six to eight inches. Probe around fresh mounds or between two fresh mounds, since these indicate the most recent presence of pocket gophers. When a runway is located, the probe will give way and drop about two inches. This may then be easily dropped into the burrow. Insert one teaspoonful of grain bait at two or more places in each runway system. Close the probe hole with a clod or rock to keep out light and prevent dirt from falling on the bait. All bait material is to be placed below ground.  
**PROBES-**When only a few runways are to be treated, a one-half inch steel rod, pointed at the tip, will serve to locate the tunnels and a larger rod or broomstick can be used to enlarge the hole through which bait is deposited. If considerable treatment is to be done, a special metal probe may be constructed.