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Vertebrate Control in Container Production[®]

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INTRODUCTION

There are a few basic principles to consider when dealing with vertebrate pests. The first is to recognize the difference between an animal's habitat and its habit. The area that provides an animal with all of its basic survival needs such as food, water, shelter, and space is known as habitat. Habit refers to the behavior of an individual animal or species. The second principle to consider is that there are many management options. These options fall into two basic categories: lethal and nonlethal. Lethal methods result in the death of the animal. Nonlethal methods spare the animal's life.

LETHAL METHODS

Toxic baits were once based on pure grains such as wheat, bran, and oats which are preferred foods of common animal pests. Modern baits are often a mixture of grains formed into pellets. Because these baits are less attractive than pure grain baits, they must be presented in their freshest form. Do not use baits that are old, moldy, wet, or in any other state of decay.

Before purchasing toxic baits, **READ THE LABEL!!** They often carry restrictions on use, placement, and intended species.

Be aware that toxic baits can cause accidental or secondary poisoning:

- Accidental poisoning results when small children, family pets, or nontarget animals consume the bait and become ill.
- Secondary poisoning results when a predator eats a pest that has been poisoned.

Trapping may be the best alternative for moles, pocket gophers, mice, and rats, if you've chosen a lethal method. Trapping confirms the identity of the damage-causing pest, and helps pinpoint the source of future problems. The biggest pro is that there is no chance of accidental or secondary poisoning. However, nontarget species can sometimes be trapped. The key to effective trapping is **PRACTICE, PRACTICE, PRACTICE.**

Though shooting an animal pest may provide emotional satisfaction, it is generally a poor choice. In many residential areas, shooting is illegal and dangerous. Even in rural areas, the amount of time it takes to hunt down the pest may make it impractical.

NONLETHAL METHODS

Nonlethal methods include exclusion, repellents, frightening devices, live trapping, and aversive measures. One of the most effective and long-lasting nonlethal methods is exclusion — putting up fencing, screening, netting, or any other material that acts as a physical barrier. The goal is not only to deny the pest admittance to your production area, but to redirect the animal and change its behavior. Technology

has produced a number of new materials for exclusion protection including high tensile material for permanent fences and portable electric fences for pests on the move. Some growers have had success with underground materials for fossorial species such as moles, pocket gophers, and ground squirrels. For some pests, particularly birds, exclusion is the only legal option. Other forms of exclusion include low-powered electrical shock and ultrasonic devices.

Probably one of the most popular nonlethal forms of pest management is repellent use. Repellents discourage animals by taste, smell, or visibility. Repellents are often short-lived, especially in wet weather. They can be easily washed away by rain or irrigation. They often require multiple applications, and may not work for your particular pest. However, repellents are easy to use, and can be an important aspect of a nonlethal pest management strategy.

There are a wide variety of scare devices available from nurseries, garden centers, catalogs, and the internet. Animals can become accustomed to the loud sounds, flashing lights, fake snakes, and most other devices. Rotating the devices to different parts of the garden may increase the effectiveness. Scare devices generally do not work alone, but may be used in combination with other methods.

WHAT KIND OF PEST ARE YOU DEALING WITH?

The first step in your pest animal control strategy is to determine what type of pest you have. Is its habit below ground, above ground, above and below ground, or does it fly? Below ground pests include moles and pocket gophers. Above and below ground pests include woodchucks, ground squirrels, chipmunks, rabbits, and voles.

Rabbit damage can be easily confused with deer damage. Rabbits feed near ground level. Rabbits feed on small shrubs, small woody trees, turf, vegetables, and some flowers. There are a range of methods available to control rabbit feeding. Rabbits are not good climbers, so a short fence of about 1 m (3 ft) high made of a 3- or 8-cm (2- or 3-in.) woven mesh is adequate. There are also commercially available repellents on the market. The most common active ingredient is thiram, which is intended to reduce gnawing of trunks and limbs. To use a live trap, first identify the route that the rabbit uses most often. Bait the trap with lettuce, carrots, or beet tops. If the trap is based at the rabbit's entrance to the garden, bait may be unnecessary.

Growers have tried all sorts of scare devices. Metallic flashing, rattles, noisemakers, and scarecrows have all been tried with varying degrees of success. It is possible to make rabbits voluntarily relocate. Because rabbits need protective cover for escape routes, consider the removal of brambles and other dense, woody vegetation. In combination with fencing this is effective and nonlethal.

Birds and bats make up the flyer category of vertebrate pests. A few strategies for controlling birds include the use of bird netting, landing inhibitors such as steel spikes, ultrasonic bird repellent devices, or scare devices such as Irri-Tape.

Bats are really not problem animals. In fact, most of them feed on insects during nightly flights. Some gardeners use bat houses to attract bats. However, be aware that wasps are fond of nesting in bat houses. If bats are the culprit to your problem, try netting the plants you wish to protect.

Above ground pests are made up of an extensive list of animals such as tree squirrels, rats, mice, raccoons, skunks, opossums, and deer. The best deterrent to skunks in the garden is exclusion and prevention. Remove pet food from outside at night.

Do not add food scraps to the compost pile. Surround your production area with a 0.6-m (2-ft) high wire mesh or picket fence, and screen all openings beneath your house and out buildings. Do not try to trap a skunk yourself. They are a primary source of rabies. If your pets are sprayed, neutralize the smell with a wash of diluted vinegar or tomato juice.

Opossums are the only marsupial native to North America. Because opossums eat almost anything, the best deterrent is to keep the garden clean. Keep trash picked up and make sure garbage cans are sealed. A short 1.2-m (4-ft) fence of chicken wire with the top 1 to 1½ ft bent outward should keep opossums out of the nursery. Live traps work also. Bait the trap with bread and jelly, which won't attract cats.

Deer are adaptable animals, often found in areas where people would consider unlikely for such a large species. They can be serious garden pests even in residential areas where the house density is more than two houses per acre. As our urban communities move further and further into rural landscapes, deer damage becomes an increasing occurrence.

Deer are ruminants with four-chambered stomachs. One deer eats 6 to 8 pounds of plant material each day. Because of their complex digestive system, deer can and will eat anything including pebbles and twigs!

Control strategies for deer are more complicated than those of smaller animals. Large scale exclusion, repellents, and scare devices are all viable control options. Deer have a vomolfactory gland which allows them to not only smell and taste, but actually perform a combination of the two. Therefore, repellent products must deter based on taste and scent.

The key to a successful vertebrate pest control strategy is to use many methods in rotation as animals have a tendency to adapt quickly to sounds and scents. Patience is critical when dealing with these pests. There are many resources available in print and online. Many state Cooperative Extension programs have specific recommendations for various geographical regions.