

WILDLIFE DAMAGE CONTROL IN VIRGINIA

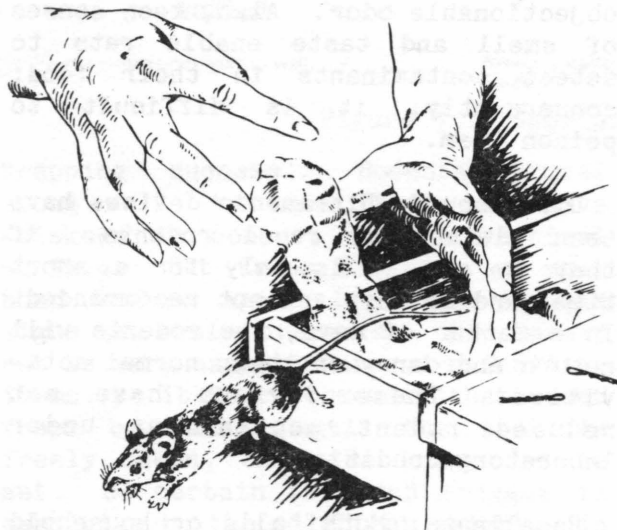


Publication 420-023

February 1988

CONTROLLING RODENTS IN HOMES

Homeowners become aware of resident rodents by seeing them, their droppings, shredded nest materials, and gnawed-on foodstuffs. Hearing scratching or gnawing at night and smelling a musky odor also signal the presence of unwanted guests. Rats and mice can cause substantial damage in a home. They can ruin stored foods, papers, and clothing by gnawing and fouling. A single house mouse will produce 36,000 rice-shaped, black droppings per year and is not particular where they are left.



Gnawing rodents can damage insulation, electrical wiring, and wood structure. Mice can invade major electrical appliances and chew on the wiring, causing short circuits and

expensive repair bills. In addition, rodents, particularly rats, can carry human diseases.

Two species of rodents are adapted to human environments. These are the house mouse (Mus musculus) and the Norway rat (Rattus norvegicus), and their niche is in and around human dwellings. Both originated in the Old World and came to our shores aboard 18th century sailing ships. Also, two species of native mice may invade houses: the deer mouse (Peromyscus maniculatus) and the white-footed mouse (Peromyscus leucopus).

Norway Rat

The Norway rat originated in central Asia and might be more aptly called the Russian rat. Other common names include the brown, barn, house, and sewer rat. Weighing 5 to 20 ounces, the Norway rat is much larger than the house mouse. The tail, nearly devoid of hair, appears scaly and is shorter than the length of the rat's body. Total length of the Norway rat is between 12 and 19 inches. The coarse, grayish-brown fur fades into gray on the rat's underside.

Norway rats are rapid reproducers. Litters of seven are average and may be produced throughout the year, if conditions are good. Rats are most active at night, but may be seen during the day where populations are high.

LD
5655
A762
no. 420-023
VPI
Spec

Being capable swimmers, jumpers, climbers, burrowers, and gnawers, Norway rats are capable of finding and invading suitable habitats. Rats travel an area averaging 100 to 150 feet in diameter during their daily movements. They require water daily, but the amount needed depends on their diet. Outside the home, and especially around doghouses, homeowners should check for rat tunnels. These tunnels typically leave openings about 2 inches in diameter.

House Mouse

The house mouse weighs from 1/2 to 1 ounce and is from 5 to 8.5 inches in total length. Grayish-brown color; large, nearly naked ears; and a sparsely haired tail with scaly rings are characteristics of the house mouse. Adept at climbing, jumping, and swimming, the house mouse can easily invade most human dwellings. Once in suitable habitat, the house mouse population can explode. Each house mouse female commonly gives birth to five to ten litters of five to seven young each year. A female can breed at 40 days of age.

Unlike rats, house mice can get by with little or no water. Also, mice require a much smaller space than rats to carry on their daily activities; their territories average 10 to 30 feet in diameter.

Deer Mouse & White-footed Mouse

These mice are similar in appearance to the house mouse, but can be distinguished by the sharp difference in coloration between the back and belly. The bodies of these mice have grayish or reddish-brown upper surfaces contrasted with white or very light gray under-surfaces and white feet. Their large, protruding, black eyes are another conspicuous identification characteristic. Usually inhabiting woods and grasslands, the deer mouse and the white-footed mouse will sometimes find their way into houses.

Treatment

House mice, deer mice, white-footed mice, and Norway rats do not hibernate, so they must seek suitable shelter during the colder months. Autumn months find these rodents moving into human dwellings, although they may invade a house at any time of the year. Once rodents are in a house, they need to be eradicated because they will not leave if they find adequate food and shelter. Speedy eradication prevents opportunities for rapid breeding and the associated levels of infestation. Eradication and prevention require treatment of the entire dwelling. This is particularly important in apartment complexes where rodents may be using ventilator systems or common spaces under the building for living quarters.

Poisons: Even though many rodent poisons are not particularly dangerous to pets and children, poisons are not recommended in homes. A poisoned rodent will find a secluded place to die and, unless found immediately after death, will produce a most objectionable odor. Also, keen senses of smell and taste enable rats to detect contaminants in their food; consequently, it is difficult to poison them.

Ultra-sound: Ultrasonic devices have been claimed to repel rodents. If they do so, it is only for a short time, and so they are not recommended. In a matter of days, the rodents will return and carry on their normal activities. These devices have not reduced rodent populations under laboratory conditions.

Repellents: Moth balls or household ammonia may temporarily keep rodents out of enclosed areas, but neither are registered by the Environmental Protection Agency as rodent repellents. Furthermore, repelling rodents from part of the home will not eliminate the problem.

Cats: Commonly thought to control rats and mice, cats cannot be depended upon to eliminate rodents.

Trapping: Trapping is best for small numbers, not for major infestations. The snap trap baited with peanut butter or bits of meat tied to the trigger is the most practical method of eliminating small numbers of rodents in homes. Proper placement of traps (see figure 1) with an expanded trigger (see figure 2) will increase

mice, however these boards should be located where children and pets will not find them. Also, the stuck animals do not die quickly, which may be a concern.

Prevention

The most effective way of reducing rodent damage in a home is by preventing them from entering. This can be done by sealing entryways, reducing nesting and hiding places around the home, and eliminating any available

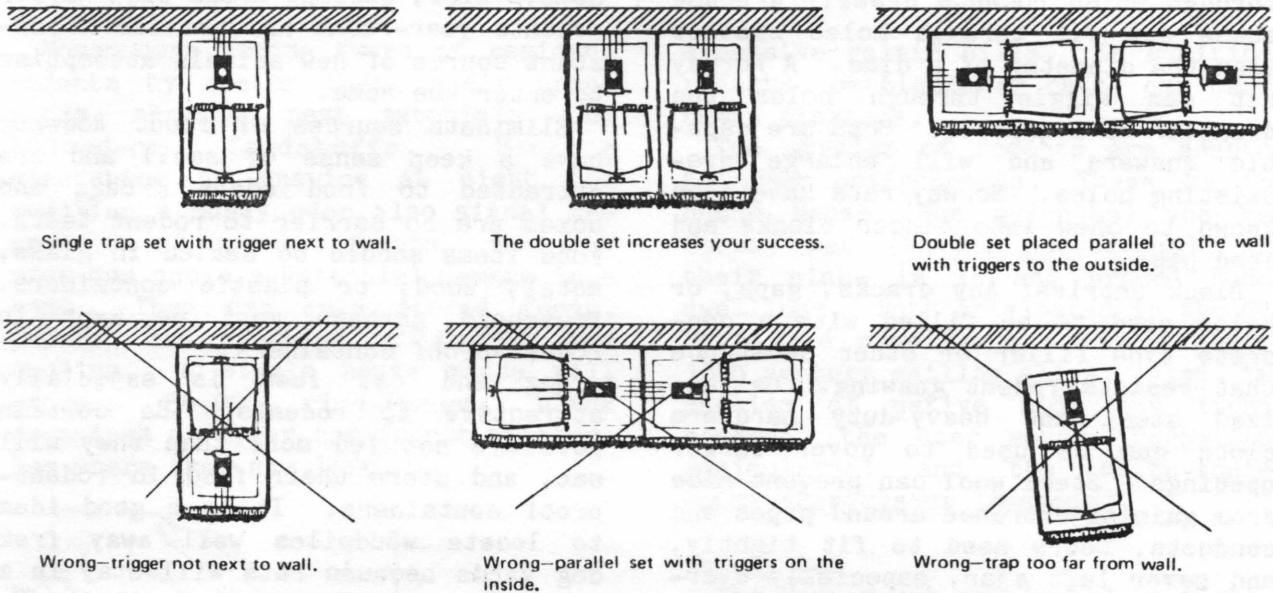


Figure 1. Proper placement of snap traps.

trapping success. Rodents travel along walls to keep their sensitive whiskers in contact with a vertical surface. Set traps for mice no more than 6 feet apart in areas showing signs of their presence. The Norway rat is very cautious around unfamiliar items, so it is recommended that unset traps be baited until the bait is freely taken, then the traps can be set. Be certain the trap trigger is sensitive to the slightest weight. In addition to snap traps, box-type live traps can be used. Rodents caught in these traps can be destroyed or released.

Glue Boards: Boards covered with very sticky glue can be used to catch

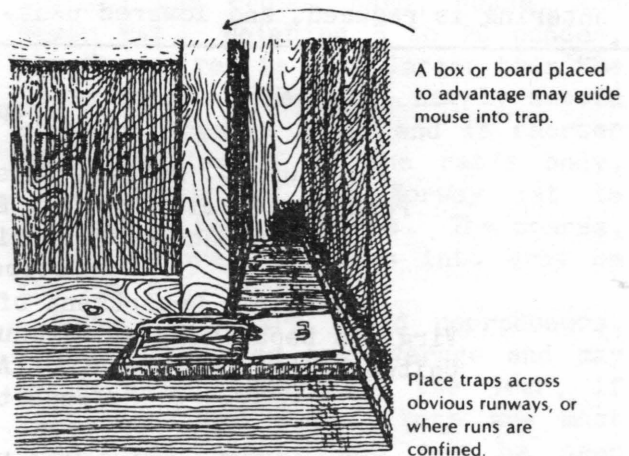


Figure 2. Expanded-trigger traps improve trapping success.

food supplies. You will know that your efforts are successful when no fresh signs of rodents are found in and around your home. Rodent-proofing is feasible only after all mice and rats have been eliminated from the building.

A thorough inspection of a house can show the entryways that rodents are using. Cracks in the foundation, gaps around pipes and conduits that extend through walls, poorly fitting doors, and unscreened vents are the places through which rodents crawl. A house mouse can fit through holes smaller than the diameter of a dime. A Norway rat can wiggle through holes the diameter of a quarter. Both are capable gnawers and will enlarge pre-existing holes. Norway rats have been known to chew into cinder blocks and lead pipe.

Block entries: Any cracks, gaps, or holes need to be filled with a concrete type filler or other substance that resists rodent gnawing. Galvanized steel and heavy-duty hardware cloth can be used to cover larger openings. Steel wool can prevent mice from gaining entrance around pipes and conduits. Doors need to fit tightly, and never left ajar, especially overnight.

By closing rodent entryways into a house, the chance of other pests entering is reduced, and lowered heat-

ing and cooling bills are side benefits.

Eliminate cover near your home: Both rats and mice prefer not to venture over open spaces. They need the security of cover in the form of vegetation, wood piles, or trash heaps. By keeping grass and weeds mowed, trash picked up, and wood piles well away from the house, avenues inviting rodents are reduced. This emphasis on tidiness also works to reduce the chances of snakes being around the home. Also, unkempt areas will harbor rodents year-round and provide a constant source of new animals attempting to enter the home.

Eliminate sources of food: Rodents have a keen sense of smell and are attracted to food odors. Bags and boxes are no barrier to rodent teeth. Food items should be sealed in glass, metal, wood, or plastic containers. Household garbage must be kept in rodent-proof containers.

Dog and cat food is especially attractive to rodents. Be certain pets are not fed more than they will eat, and store their food in rodent-proof containers. It is a good idea to locate woodpiles well away from dog yards because rats will stay in a woodpile and feed on spilled dog food. Excessive spillage of bird food at bird feeders is another reason for rat infestation of homes.

Prepared by:

Edwin J. Miller, Extension Assistant, Wildlife
Peter T. Bromley, Ph.D., Extension Specialist, Wildlife
Department of Fisheries and Wildlife Sciences
in cooperation with

Virginia Department of Game and Inland Fisheries
Virginia Department of Agriculture and Consumer Services, and
United States Department of Agriculture, Animal, Plant Health
Inspection Service

Cover drawing reproduced from the Wild Mammals of Missouri by Charles W. Schwartz and Elizabeth R. Schwartz by permission of the University of Missouri Press. Copyright 1958 and 1981 by the Curators of the University of Missouri. Figures 1 and 2 from Prevention and Control of Wildlife Damage Great Plains Agricultural Council and Cooperative Extension Service, University of Nebraska.