

# ANIMAL DAMAGE CONTROL

## CONTROL OF RATS AND MICE

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House rats and mice have long been unwelcome associates of man. They followed his occupation and development of new countries and are now present in most parts of the world. In contrast to native rats and mice, they are aliens but well established.

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Rats and mice can be found in homes, farm and ranch buildings, grain storage structures, sheds and garages. They are objectionable in many ways:

1. They eat and contaminate all sorts of food.
2. They damage and destroy property. They chew wires, which can cause fires. They destroy labels on cans and damage sacks and other containers. They

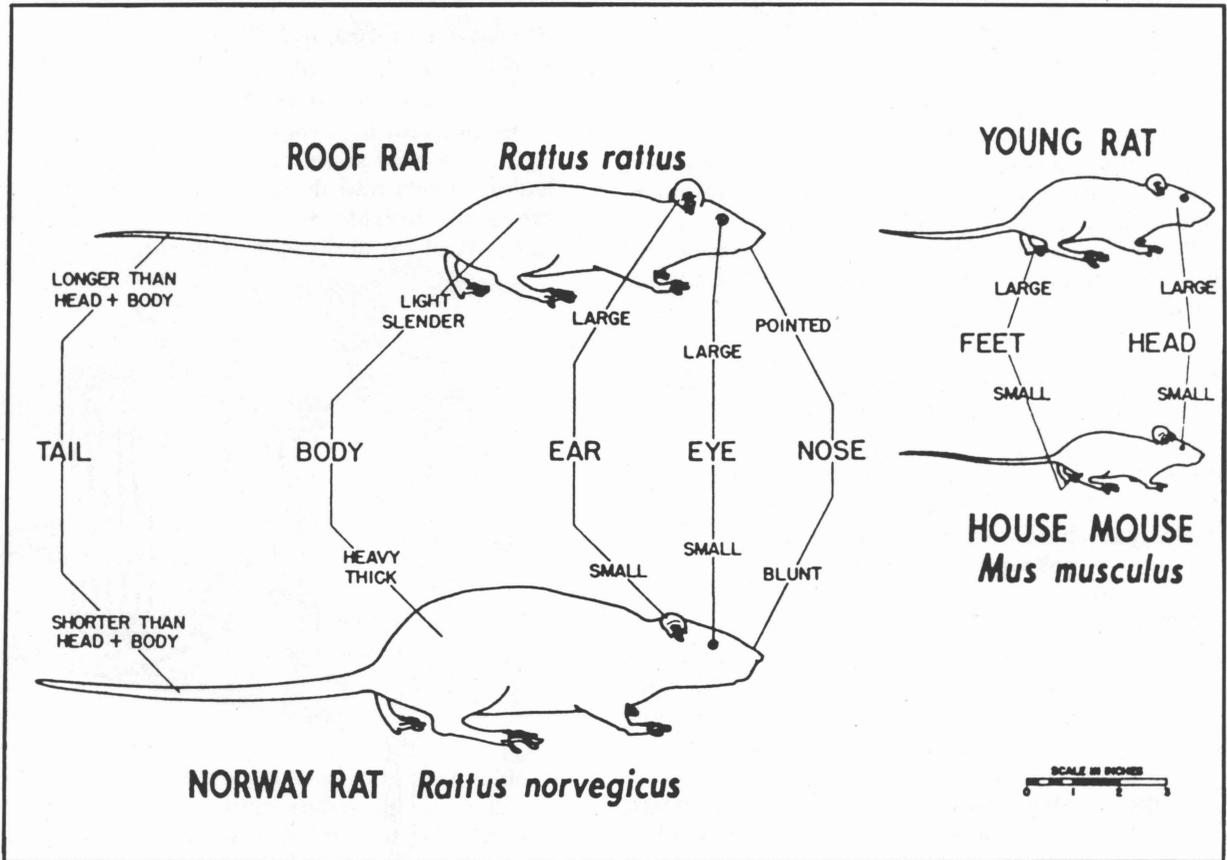


Figure 1. Field identification of domestic rodents.

undermine buildings, gnaw pipes, chew water hoses, and cut through mortar and cement. They damage wood doors, floors, walls, clothing and furniture.

3. They carry diseases that are health hazards to both man and domestic animals—diseases such as typhus fever, Trichinosis, plague, infectious jaundice, Salmonella food infections and rat mite dermatitis.

## Identification of Rats and Mice

In order to control rats and mice, one must first be able to identify the species and the degree of infestation. The three house rodents are the Norway rat, the roof or Alexandrine rat and the house mouse (see Figure 1). These three rodents are known as commensal rodents.

Norway rats burrow under foundations, floors, stacks of stored goods and rubbish. The roof rat seldom burrows. It normally inhabits double walls and attics. If a nest is high it is usually that of a roof rat. If it is underground it is almost always that of a Norway rat. The smaller, neater nests of mice are placed in any sort of shelter—under a pile of paper sacks, in loose or baled hay, inside upholstered furniture and even in cabinet drawers.

The signs of a rat or mouse infestation include droppings, tracks in the moist earth or in dusty places, and burrows in the ground, in haystacks or in baled hay. There will be signs of gnawing, greasy smears wherever their bodies have touched walls or rafters, and runways in the grass or through trash. One can smell the presence of rats and mice, especially in a poorly ventilated room.

The degree of infestation (heavy, moderate or low) can be determined by checking for the following signs:

**Droppings:** Numerous or just a few? Scattered or everywhere? Fresh or old?

**Smears:** Faintly seen or very heavy and greasy?

**Runways:** Seldom used or worn smooth by the passage of many rodents?

**Feeding Signs:** A solitary rodent may be quite neat about its feeding. If many feed, they may fight among themselves and scatter food.

**Sounds:** Mice squeal continually in their nests. Rats make running and squealing noises even when not alarmed. Since rodent activity increases after dark, that is the best time to listen for them.

Norway rats are not sociable and will not tolerate many of their own kind in the same vicinity. Forty Norway rats would be considered a heavy population, but 100 or more roof rats often live in harmony. Rarely are both Norway and roof rats found living in the same structure.

## Methods of Control

The principal means of controlling rats and mice are:

1. Removal of shelter.
2. Removal of food and water.
3. Using traps and rodenticides.
4. Rat-proofing.

### Removal of Shelter

Rat shelters are provided by lumber piles, accumulations of trash and other stored materials. Waste, such as empty boxes and cartons, should be disposed of promptly so that it will not serve as a luxury hotel for rodents. Materials should be stored at least 18 inches off the ground or floor, and with space between the material and the wall.

### Removal of Food and Water

The best way to eliminate the food supply is to store foodstuffs in rat-proof containers such as glass or metal, and to dispose of waste and garbage in tightly covered metal cans (see Figure 2). Mending leaky faucets and doing away with water storage areas that rodents have access to is also an essential part of rat and mouse control.

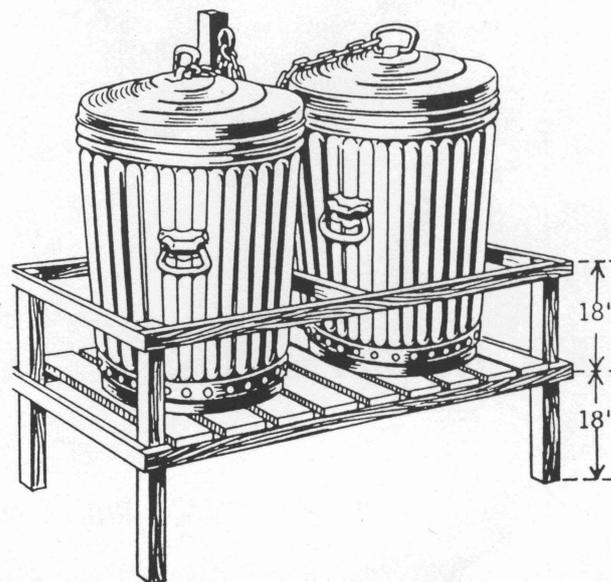


Figure 2. Garbage should be stored in metal containers and placed at least 18 inches off the ground.

## Use of Traps and Rodenticides

One effective means of destroying rats and mice, and the one most generally recommended, is the use of rodenticides. There are many different kinds of rodenticides available. Most are anticoagulants, which cause death by internal bleeding. Anticoagulant rodenticides are available in either single-dose or multiple-dose baits, and in cereal grain, pellet or water soluble formulations. Rats and mice normally begin dying 3 to 10 days after feeding on the baits. Although rodenticides are generally safe to use, care should be taken when placing these chemicals, so that neither people nor domestic animals have access to them. The label directions should always be read and followed exactly.

Traps are just as effective as rodenticides, but they require more skill and labor. They are recommended where the use of rodenticides seems inadvisable, and in places where there are few rats and mice. The best place to set traps is close to walls in areas where rodents run. Traps should be set in such a manner that the rodent, in following its natural course, will pass directly over the trigger. To make the trap more effective, a 2-inch by 2-inch piece of cardboard can be attached to the trigger (see Figure 3). Set this way, the trap does not have to be baited as it will spring when the rodent steps on the expanded trigger. The selection of baits for trapping is important. Baits should be fresh and changed daily. It is more effective to use a variety of baits on successive traps than a single kind of bait. Fruit, peanut butter and nuts all make good baits.

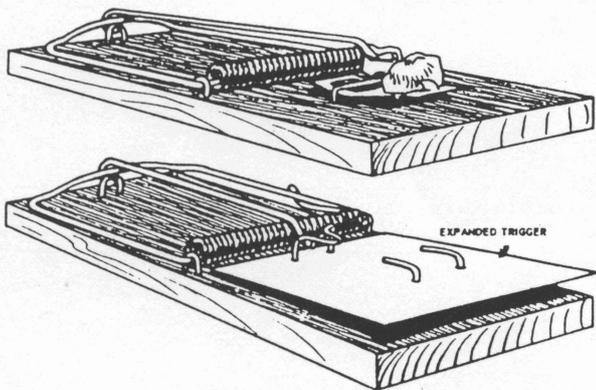


Figure 3. A trap trigger can be extended with a piece of cardboard.

## Rat-proofing

Whenever it can be accomplished at a reasonable cost, rat-proofing is recommended as the most permanent means of control. All openings rodents can enter should be covered with rat-resistant materials such as hardware cloth or steel wool. Doors should be closed when not in use, and all

edges subject to gnawing should be covered with metal. Unnecessary openings should be covered with concrete or sheet metal (see Figure 4). Concrete also can be used to prevent rats from burrowing under foundations (see Figure 5).

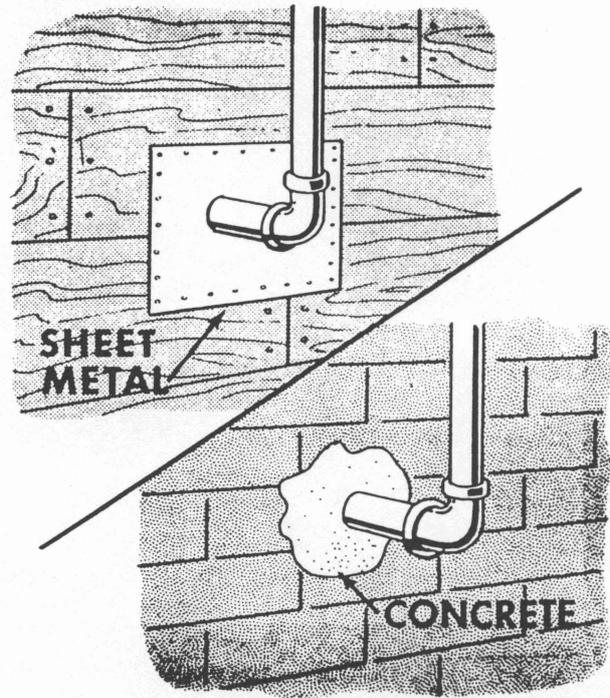


Figure 4. Openings can be sealed with sheet metal, concrete, or similar materials.

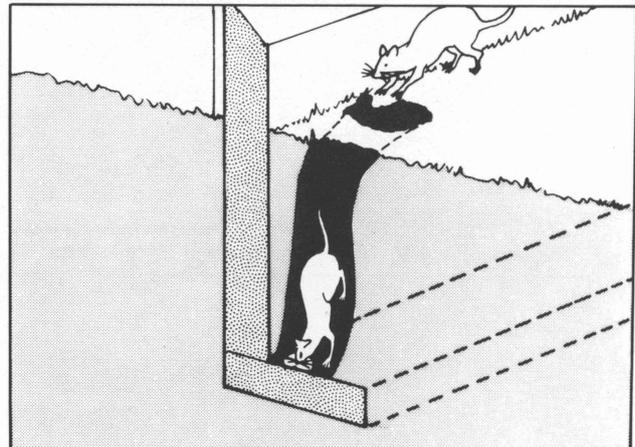


Figure 5. Concrete can be used to prevent rats from burrowing under foundations.

Additional information on controlling rats and mice may be obtained by contacting the nearest office of the Texas Animal Damage Control Service.

*Drawings courtesy of the Centers for Disease Control.*

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