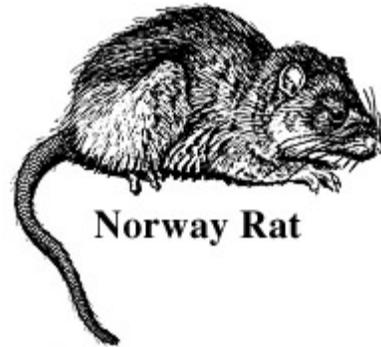


# Prevention & Control

## NORWAY RATS

The Norway rat (*Rattus norvegicus*, also called the brown rat or sewer rat) is a destructive pest found in urban and suburban neighborhoods. These rodents eat and contaminate food, damage buildings and other property by their gnawing and burrowing, and may spread diseases that affect people and pets.



Norway Rat

### Recognizing Rat Infestations

The presence of rats can be detected by droppings or evidence of fresh gnawing. Tracks can be seen in mud and on dusty surfaces. Runways and burrows may be found next to buildings, along fences or railroad tracks, and under low vegetation and debris.

### Rat Facts

Norway rats are husky, brownish rodents that weigh about 11 ounces. They are about 13 to 18 inches long including the 6 to 8 1/2 inch tail. Their fur is coarse and mostly brown with scattered black on the upper surfaces. The underside is typically grey to yellowish-white.

Rats will eat nearly any type of food, but they prefer high-quality foods such as meat and fresh grain. Rats require 1/2 to 1 fluid ounce of water daily when feeding on dry food. Rats have keen taste, hearing and sense of smell. They will climb to find food or shelter, and they can gain entrance to a building through any opening larger than 1/2 inch across.

Rats have litters of 6 to 12 young, which are born 21 to 23 days after mating. Young rats reach reproductive maturity in about three months. Breeding is most active in spring and fall. The average female has four to six litters per year. Rats can live for up to 18 months, but most die before they are one year old.

### Rat Prevention and Control

**Sanitation.** Poor sanitation and the presence of garbage help rats to survive in residential areas. Good sanitation will effectively limit the number of rats that can survive in and around the home. This involves good housekeeping, proper storage and handling of food materials and refuse, and elimination of rodent shelter (harborage). Outside dog pens must be properly maintained to reduce potential rat problems. Removing clutter around homes allows inspection for signs of rats. Good sanitary practices will not eliminate rats under all conditions, but will make the environment less suitable for them to thrive.

**Rat-Proof Construction.** The most successful and permanent form of rat control is to "build them out" by making their access to structures impossible. Ideally, all places where food is stored, processed or used should be rodent-proof. Store bulk foods, bird seed and dry pet food in metal cans with tightfitting lids.

Seal any openings larger than 1/4 inch to exclude both rats and mice. Openings where utility conduits enter buildings should be sealed tightly with metal or concrete. Equip floor drains and sewer pipes with tightfitting grates having openings less than 1/4 inch in diameter. Doors, windows and screens should fit tightly. It may be necessary to cover edges with sheet metal to prevent gnawing.

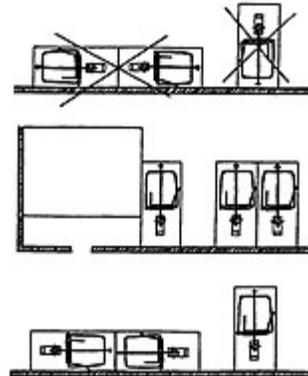
*Traps.* Trapping is an effective method of control. It is the preferred method in homes, garages and other structures where only a few rats are present. Trapping has several advantages: 1) it does not rely on inherently hazardous poisons; 2) it permits the user to determine if the rat was killed and 3) it allows for disposal of rat carcasses, thus eliminating odor problems that may occur when poisoning is done within buildings. However, trapping is useless if the procedures to prevent reinfestation are not followed.



Snap Trap

The simple, inexpensive snap trap is effective and can be purchased in most hardware and grocery stores. Bait traps with peanut butter, chocolate candy, dried fruit or a small piece of hot dog or bacon tied securely to the trigger. Set them so that the trigger is sensitive and will spring easily. Set traps close to walls, behind objects, in dark corners and in places where evidence of activity is seen. Place them so that rats will pass directly over the triggers as they follow the natural course of travel, usually close to a wall. Traps can be set on ledges or on top of pallets of stored materials if rats are active in such locations.

Use enough traps to eliminate the rodents quickly. (Using too few traps is a common error by individuals attempting to control rats.) Leaving traps unset until the bait has been taken at least once (prebaiting) often increases the success of trapping. An alternative to traps are glue boards, which catch and hold rats attempting to cross them in much the same way flypaper catches flies. Place glue boards along walls where rats travel. Two or three glue boards placed side-by-side will be more effective than individual boards. Do not use them where children, pets or desirable wildlife can contact them. Glue boards can be placed inside tamper-resistant bait boxes in exposed locations. Glue boards lose their effectiveness in dusty areas unless covered and extremes of temperature also may affect the tackiness of the glue. Glue boards are sometimes used to catch a rat that is wary of snap traps.



Top- Improper placement of snap traps  
Middle and Bottom- Proper placement

*Poison Baits (Rodenticides).* Rodenticides are poisons that kill rodents. They can be purchased in hardware stores, feed stores, discount stores, garden centers and other places where pesticides are sold. Do not buy unlabeled rodent baits from street vendors or other uncertain sources. Do not purchase baits that have an incomplete label or one that appears to be “homemade.”

“Building out” rodents and trapping are the most effective control methods. Rodent baits should be used only to supplement these methods. If there is a repeated need to use baits, it is likely that sanitation and rodent-proofing should be improved. Remember that rodent baits are poisons. Make sure they are registered with the U.S. Environmental Protection Agency and always follow the label instructions exactly. If baits are used indoors, be sure they are labeled specifically for interior use.

The active ingredients in baits are used at very low levels, so bait shyness does not occur when using properly formulated baits. Most of these baits cause death only after they are eaten for several days, although some types can cause death following a single feeding. Make sure that *fresh* bait is available continuously until rats stop feeding.

*Bait Selection and Placement.* Baits are available in several forms. Grain baits in a meal or pelleted form are available in small plastic, cellophane or paper packets. These sealed "place packs" keep bait fresh and make it easy to place the baits in burrows, walls or other locations. Rats gnaw into the packet to feed on the bait. Block style baits are also very effective for most situations. Using tamper-resistant bait stations provides a safeguard for people, pets and other animals. Place bait stations next to walls with the openings close to the wall or in other places where rats are active. When possible, secure the bait station to a fixed object to prevent it from being moved. Clearly label all bait stations "Caution—Rat Bait" as a safety precaution.

*Sound and Electronic Devices.* Rats quickly become accustomed to regularly repeated sounds. Ultrasonic sounds, those above the range of human hearing, have very limited use because they are directional and do not penetrate behind objects. Also, they quickly lose their intensity with distance. There is little evidence that sound of any type will drive established rats from buildings or otherwise give adequate control.

*Control by Cats and Dogs.* Many rat problems around homes can be related to the keeping of pets. In fact, rats may live in very close association with cats and dogs. Rats frequently live beneath a doghouse and soon learn they can feed on the dog's food when he is absent or asleep. Although house cats, some dogs and other predators kill rats, they do not usually provide effective rat control.

### **Disposal of Dead Rodents**

Always wear intact rubber or plastic gloves when removing dead rodents and when cleaning or disinfecting items contaminated by rodents. Soak or spray dead rodents with a disinfecting solution (3 tablespoons of bleach per gallon of water or a commercial disinfectant containing phenol) until thoroughly wet and place in a plastic bag. The bag should be placed in a second bag and tightly sealed. Dispose of rodents in trash containers with tightfitting lids. After handling rodents, resetting traps and cleaning contaminated objects, thoroughly wash gloved hands in a general household disinfectant or in soap and water. Then remove gloves and thoroughly wash your hands with soap and water.

This publication is for information and is intended as a guide only. *Always read and follow all current label instructions for pesticides.* If any information in these recommendations disagrees with the pesticide label, the label instructions must be followed.

Prepared with the assistance of University of Illinois Extension. For more information, contact the Illinois Department of Public Health, Division of Environmental Health, 525 W. Jefferson St., Springfield, IL 62761, 217-782-5830, TTY (hearing impaired use only) 800-547-0466.

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