

BUCKS COUNTY DEPARTMENT OF HEALTH

Neighborhood Rat Control



Rattus norvegicus

Reasons Why Rats are Not Wanted

Rats are carriers of a number of diseases, many of which can be transmitted to humans. Murine typhus, plague, salmonellosis, leptospirosis, trichinosis, rat bite fever, and the rickettsial pox are just a few examples of the diseases that rats are capable of transmitting to humans.

A single rat eats approximately 40 pounds of food per year and contaminates two to ten times that amount of food with urine, droppings, and hair. The rat population in Pennsylvania is believed to be near 10 million, and each rat is responsible for approximately 10 dollars worth of food or property damage.

Rats cause extensive damage by gnawing on furniture, doors, floors, walls, and a number of other parts of a home or building. They can damage electrical appliances and have been responsible for electrical fires by chewing off insulation around wires.

Rats also bite a number of humans each year. Most bites are inflicted on infants who are unable to defend themselves. Rats do not normally attack babies – most bites result when rats are attracted to food left on the child's face or in the tub.

Prevent Rat Problems

Rats are dependent upon humans for their survival and readily adapt to our ways of living. Rat problems can be greatly reduced by eliminating the supply of food and water and by reducing the amount of shelter available. Those three basic requirements for rat survival are all provided by humans.

You can help keep rats in check – the following tips should be helpful.

1. Place all garbage in metal cans and keep covered with tight-fitting lids. Garbage stored in open containers or dumped on the ground will increase the potential for a rat problem.
2. Clean up spilled foods as soon as possible. Keep the stove, tables, refrigerator, and kitchen floor clean.
3. Wash dishes and cooking utensils after each meal. Rats are attracted to food odors, and eliminating these odors will help keep them out.
4. Store cereals, breads, flour, and similar materials in rat-proof containers.
5. Keep storage boxes and bulky objects away from the walls and off the floor. It is best to store these items on platforms at least six inches off the floor.
6. Do not let junk accumulate in or around the outside of the house.
7. Be sure to close the doors when going in and out of the house. It is also important to eliminate all possible entrances. Holes may be closed with hardware cloth, sheet metal, or concrete. Do not let rats get into your living quarters. You must not let your guard down!

How Can You Tell if Rats are Present

1. If you see a rat occasionally, there is a good chance that there are 20 you did not see. If you see rats frequently, the actual number might run into the hundreds.
2. Doors, windowsills, walls, etc. may have holes gnawed through them.
3. Rat hairs and droppings are seen.
4. You may notice smooth oily rub marks along the baseboards, walls, and exposed rafters where rats have their runways.
5. Rat burrows may be seen near rock walls, in dirt floors, and outside along the foundation.

Trapping Rats

Trapping is a good method to remove a few rats from a building and is probably the best method to use when the odor of dead rats is highly objectionable. Trapping is not an efficient method to use if large numbers are present and where ample food, water, and shelter are available.

Various types of traps and devices are available for catching rats, with the snap trap being the most common. Traps may be used with or without a lure type of bait. Proper placement of the traps is of the utmost importance. Place traps in active runways and in openings where rats enter building or escape to their burrows. Expanded triggers increase the effectiveness of non-baited traps. Some lures worth trying on trap triggers include peanut butter, fried bacon, milk chocolate, chunks of doughnuts, and gum drops. Be sure to use many of these traps.

Anticoagulant Baits Suggested for Problem Areas

The use of poisoned baits is often the most expedient method of dealing with large numbers of rats. The anticoagulant rodenticides are suggested as the poison for the bait because of their past performance and safety record. Commercially prepared rat baits contain a small percentage of anticoagulant (usually .025 percent) mixed with a combination of cereal grains. Such formulated baits will stay attractive to rats for long periods of time unless they become moldy or extremely dirty.

There are many varieties of anticoagulant baits on the market today. Individuals should be cautious when placing such baits around their homes. It is important to read the instructions on the label before utilizing any type of bait.

If it is determined that a rat infestation is a major problem, it is important to contact a professional exterminator who is licensed as a Certified Pesticide Applicator in the Commonwealth of Pennsylvania.

How to Use Baits Safely and Effectively

1. Use sturdy bait stations in which to place the bait. Such stations may vary from a board nailed diagonally from the wall to the floor over a rat runway, a wooden box, or to even a special metal bait station. The main objective of a bait station is to provide a suitable place for the rats to feed on the bait, however it is important to keep away from pets and children.
2. Place the bait stations where rats are known to travel and feed. Try to place the stations so the rats can easily reach them.
3. Use more bait stations than you think is necessary. Figure at least one station for each room. Measure about one cup of bait into a shallow pan and place inside of each station.
4. Make every effort to remove all other food materials so only the poisoned bait is available as a source of food for the rats.
5. Check the stations daily – add more bait as needed. If stations are not being used by rats after several days, move them to new locations.
6. Remember, rats must feed on the bait over a period of several days so keep the stations going for at least one week – three weeks are suggested.
7. Pick up any dead rats (wear gloves), wrap them in newspaper and dispose of them in an outside garbage can.

Physical Abilities of the Norway Rat

It is difficult to rat-proof a building without knowing the physical capabilities of rats. The following guidelines generally represent the combined maximum abilities of *R. norvegicus* and *R. rattus*. Therefore, when rat-proofing a structure, it would be wise to assume that rats accomplish the following:

1. Gain entrance through an opening that is larger than ½ inch (1¼ cm.) square.
2. Climb both horizontal and vertical wires.
3. Climb the inside of vertical pipes that are 1½ to 4 inches (to 10 cm.) in diameter.
4. Climb the outside of vertical pipes and conduits up to 3 inches (7½ cm.) in diameter.

5. Climb the outside of vertical pipes of any size if the pipe is within 3 inches (7½ cm.) of a wall or other continuous support for the rodent.
6. Crawl horizontally on any type of pipe or conduit.
7. Jump vertically as much as 36 inches (1 meter) from a flat surface.
8. Jump horizontally at least 8 feet (2.4 meters) from a flat surface.
9. Jump horizontally at least 8 feet (2.4 meters) from an elevation of 15 feet (4½ meters).
10. Drop 50 feet (15 meters) without being killed or seriously injured.
11. Burrow vertically into the ground to a depth of 4 feet (1¼ meters).
12. Climb brick or other rough exterior walls that offer footholds to gain access to upper stories of structures.
13. Climb vines, shrubs and trees, or travel along telephone or power lines to gain access to upper stories of buildings.
14. Reach as much as 13 inches (33 cm.) along smooth vertical walls.
15. Swim as far as ½ mile (0.8 km) in open water, dive through water plumbing traps, and travel in sewer lines even against substantial water currents.
16. Gnaw through a wide variety of materials including lead sheeting, sun-dried adobe brick, cinder block, and aluminum sheeting.



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