

Rats are unwanted guests in our homes. Rats eat our food and contaminate it with hair, feces, and urine. They damage our property by burrowing and gnawing. Rats may spread disease and they will bite. To control them, it's important to know some facts about rats.

Rat Biology

Rats have excellent senses of smell, hearing, taste, and touch. They see well at night, but are color blind. Rats can climb, swim, jump, and dig. A rat can fit through an opening that is just one half inch wide. They can chew through many types of building materials. Rats need to chew in order to keep their teeth from growing too long.

Rats build nests from soft material such as paper, cloth, and straw. They live in family groups and defend their area from other rats. The average rat lives about one year. During this time a female rat may have seven litters, each with 6-12 young.

Rats are most active at night and will travel about 100 feet from their nest in search of food and water. Rats like to live as close as possible to their food. They will eat almost any type of food, but prefer it be fresh. Rats may become accustomed to eating one type of food and choose it over others. They will stop eating food that has made them ill.

Each time the rat leaves the nest it travels the same path. This path is called a "runway". Outdoors the runway may appear as trail in the grass or dirt. Indoors the runway may show "rub marks" where oil and dirt from the fur has been left on the walls and floors. Rats like to have body contact

with solid objects, so they travel close to walls or other upright surfaces. Noises, droppings, rub marks, tracks, gnaw marks, fur, and borrows may all be signs of rat activity. Rats are very shy of new objects placed into their environment, making them difficult to trap or poison. Rats commonly live near people and are not scared by the odor of humans.

The rat most commonly found around homes in North Carolina is the Norway rat (*Rattus norvegicus*). An adult Norway rat has brown fur and is about seven to ten inches long (not including the tail). It has a blunt nose, small ears, small eyes, and a hairless tail that is shorter than the length of the body. Norway rats are good diggers and build their nests in holes made around the foundations of buildings, in stream banks, and under piles of wood and trash.

Much less common is the roof rat (*Rattus rattus*). The adult roof rat has gray or black fur and is about six to eight inches long. It has a pointed nose, large eyes, large ears, and a hairless tail that is longer than the length of the body. Roof rats are very good climbers, building their nests about the ground in attics, trees, and wall spaces.

Other types of rats live in fields and woods and are usually not a problem around homes.

Rats and Disease

Rats can transmit diseases to humans. Some of these include leptospirosis, salmonella, trichinosis, and rat-bite fever. The fleas on rats may carry murine typhus or plague. Despite common belief, rats are not known to carry rabies.

Rat Control

Rat control around the home takes four steps:

- 1) **Prevent rats from entering the home.** Sheet metal and hardware cloth are very effective for "rat-proofing." Remember a rat can enter a hole only about one inch wide.
- 2) **Remove any source of food.** When food is available, rats will make themselves at home. Fruits and vegetables left to rot in the garden can also feed rats.
- 3) **Remove hiding places.** The Norway rat likes to dig beneath objects to build its nest. Removing piles of trash or cutting grass and brush removes covers for rats and discourages their activity.
- 4) **Eliminate rats with traps and poisons.** When done properly, trapping can be a good way to control rats. Successful trapping depends on knowing the habits of rats. Remember rats tend to use the same runway.

Traps placed in the runway are most likely to work. Trapping may be more successful if the trap is left unset for several days. Rats are shy of new objects, not human odor.

If baited, remember rats prefer fresh food. Peanut butter, apple or cheese, make good rat bait.

If there are only a few rats, trapping may be the quickest and safest way to remove them. The more traps used the better. Be careful when placing traps so children or pets will not get into them.

Rats can be poisoned using one of the products sold in stores.

Two types of poisons (or rodenticides) are available-

- Those that require several feedings, and
- Those that require a single feeding to work.

Most of those poisons work by preventing the blood from clotting (anticoagulants). Generally, the single-feeding poison will give quicker results. The rat is more likely to feed on the poison if other food items are first removed. **Rat poisons must be placed where children, pets, or any animals other than rats and mice cannot reach them.** If this cannot be done, rat poison must be placed into a specially designed "tamper-resistant" bait box. When using rodenticides, be sure to read and carefully follow the label directions.

When large numbers of rats are present in a neighborhood, a community effort is needed to control the rat problem.

For more information please contact your local Health Department or the North Carolina Department of Environment and Natural Resources, **Public Health Pest Management Section** in Raleigh at (919) 733-6407.



State of North Carolina Department of Environment and Natural Resources

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500 copies of this public document were printed at \$150 or \$0.03 per copy.

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