

# What to Look for - Identifying Active Rodent Signs (ARS)

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Environmental health professionals should be able to determine an *active* rodent infestation from an *inactive* one, recognize the difference between house mouse fecal pellets and large cockroach droppings, and know the difference between rat and mouse gnawing damage.

Here are some key pieces of information that environmental health professionals may find useful when conducting rodent inspections in buildings and other urban areas:

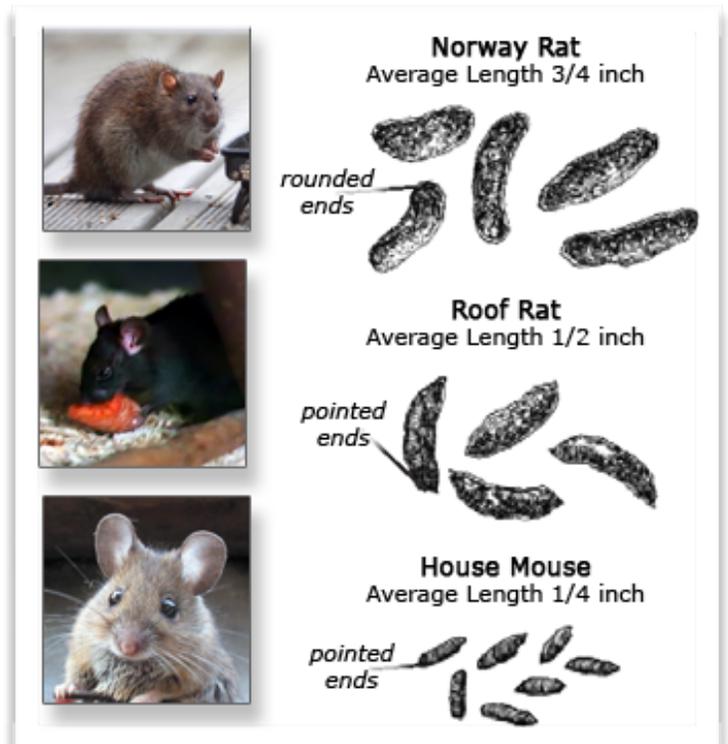
## Rodent Feces

### House Mouse

- Capable of producing up to 100 fecal pellets over a 24 hour period
- Typically deposits about 50-60 pellets all over their travel spots
- Even a minor infestation can result in thousands of feces in a short period of time
- Fecal pellets measure 3 mm to 7 mm in length with usually one end, but sometimes both ends, pointed
- *Peromyscus* mice feces are nearly identical to those of the house mouse

### Rats

- Produce about 40 to 50 fecal pellets daily
- Norway rats produce the largest feces of the commensal rodents, ranging up to 0.75 in. (19 mm) long and 0.25 in. (7 mm) in diameter
- Norway rat feces are rectangular shaped with at least one of the ends blunt
- Norway rats typically deposit their feces *in groups* in *protected spots*, such as corners and behind objects
- Roof rat feces are typically *curved, sausage-shaped*, and of a smaller diameter
- Roof rats tend to scatter their droppings around in various places



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It still may be difficult, however, for environmental health professionals to identify rodent species by feces alone. Other key pieces of information to consider when conducting rodent inspections include the following:

### Rat Burrows

The main entrance to an *active* burrow is compacted and smooth. Sometimes fresh soil fans outwards away from the hole. *Inactive* burrows may have debris or cobwebs blocking the entrance.

To confirm if a burrow is currently active or inactive, collapse the entrance to the burrow and/or insert or block the burrow opening with debris (e.g., inserting paper wads into the burrow). Check the burrow the following day to see if it has been reopened or the debris has been removed.

#### Norway rat burrows

- are common in areas of active exterior infestations;
- have diameters measuring from 1.5 to 3 inches (3.8 to 7.5 cm);
- are hidden by being dug along foundations and walls, or beneath debris or shrubbery;
- are seen in open areas when rats become very numerous; and
- in residential yards, are often constructed within about 100ft (30m) of dog houses, bird feeders, or garbage cans.

#### Roof rats

- establish leafy burrow nests along fence rows, woodpiles, and storage sheds.

### Gnawing Damage

Environmental health professionals may encounter signs of gnawing damage while conducting rodent inspections in and around buildings. It is important to note, however, that rodents *do not* need to gnaw on objects to keep their incisors filed down.

This is achieved when they grind their upper and lower incisors against each other on a daily basis.

By examining the size of the two shallow, parallel grooves left by their incisors on a gnawed object, it can be determined whether the damage is from rats or



*Teeth of house mouse (left) and rat (right)*

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mice.

Using a simple pocket ruler will help determine whether gnawing damage was caused by a mouse or a rat.

In addition, a ruler will aid in measuring door gaps, fecal pellet sizes, and other activities undertaken during a rodent inspection.

### **Mice**

- Leave a tiny "scratchy" incisor mark of only 1 to 2 mm wide
- Gnaw holes that are often small, clean-cut holes about 1.5 in. (4.0 cm) in diameter

### **Rats**

- Frequently gnaw on all types of structural items including, but not limited to, weather stripping, floor and ceiling joists, wall studs, caulking around pipes, and rusting screens
- Incisor marks measure 3.5 to 4.0 mm across
- Gnaw holes left in cartons and boxes typically measure about 2 in. (5.1 cm) or more in diameter and often have rough, torn edges