

# INTEGRATED PEST MANAGEMENT: RATS AND MICE



The most common rodent pests are the roof rat, Norway rat, and house mouse. To protect the health of children and your family, you need a strong IPM program to manage rats and mice.

## When are rats and mice a problem?

Rats and mice can damage buildings, food, clothing, and documents by gnawing, urinating, defecating, and nesting. Because they gnaw on hard objects, such as plastic electrical boxes, they can cause fires. Rats bite more than 4,000 people a year, mostly young children. The urine, droppings, saliva, and dead skin cells of rats and mice may also trigger asthma attacks.

## What do rats and mice do?

Rats often live in packs, so if you see one, there are likely to be more around. Rats and mice reproduce often. If not properly managed, a rodent infestation will rapidly increase. Mice are 10 to 20 times more common than rats in indoor environments. Rats and mice are most active at night. If you see them during the day, you probably have a serious infestation.

## IPM Strategies

Many people use poisons to get rid of rodents, but this won't solve a rodent problem without a comprehensive IPM plan. If rodents are killed, but food, water, and a place to live are still available, it's likely that other rodents will soon appear.

### 1 KEEP RATS AND MICE OUT

Rodents enter buildings through holes in walls, around pipe entries, through sewer outlets, and under doors. Mice can fit through a hole as small as ¼-inch. Rats fit through a hole as small as ½-inch.

- ▶ Use metal flashing, hardware cloth, copper wool, and escutcheons to seal floor drains, vents, holes, and gaps around pipes.
- ▶ Install a doorsweep under each exterior door.
- ▶ Seal cracks in the foundation and openings to keep rodents from entering the building.

### 2 REMOVE FOOD

In most areas, garbage is the main source of food for rats.

- ▶ Discard food waste in indoor and outdoor eating areas in tightly covered, indoor garbage cans lined with plastic bags.
- ▶ Clean indoor garbage cans frequently to prevent the build-up of food waste.
- ▶ Keep outdoor garbage bins on hard concrete surfaces away from the building.

### 3 MONITOR

Look for:

- ▶ rodent droppings,
- ▶ burrows in the ground,
- ▶ nests in ivy or around cluttered areas,
- ▶ fruit or nuts that have been gnawed or damaged food in pantry.

### 4 IDENTIFY WHAT KIND OF RODENT YOU HAVE

**Norway rats** are the best burrowers and stay in the basement or ground floor.

**Roof rats** are clever climbers and like enclosed elevated spaces in attics, walls, and false ceilings.

**House mice** can run up any rough, vertical surface and nest in enclosed places such as drawers and boxes.



[IPM Strategies continued]

## 5 GET RID OF RATS AND MICE

### Traps

- ▶ Use snap or electrocution traps with bait.
- ▶ Keep traps away from children's reach.
- ▶ Always wear gloves when handling traps to protect yourself.
- ▶ Read directions and watch instructional videos about using the traps.

### Snap traps

- ▶ Place traps parallel to the wall so rodents will be caught coming from either direction.
- ▶ Use a lot of traps to make the trapping period short. Empty and reset traps daily until there are no more rodents.
- ▶ Rats: Put the traps out for one or two days so the rats are used to them and then use baits, such as peanut butter.
- ▶ Mice: Place mouse traps no more than 10 feet apart in areas where mice have shelter and food.

### Electrocution traps

- ▶ They are easy to use, battery-operated, shoebox-sized traps that electrocute the rodent as it crawls in.

- ▶ Place dried fruit in the back of the trap, press a switch, and go away. A blinking light will alert you that a rodent's been electrocuted.
- ▶ Dispose of the dead rodent in an outdoor garbage bin.
- ▶ One trap can be reused indefinitely.

## 6 CLEAN UP AFTER RATS AND MICE

- ▶ Don't sweep or vacuum rodent droppings, urine, or nesting materials; they can carry diseases. Sweeping or vacuuming will stir up dust and increase your chance of inhaling viruses.
- ▶ Wear gloves and disinfect the urine and droppings. (If using bleach, spray with a mixture of 1 part bleach to 10 parts water. Let soak 5 minutes.) See *Green Cleaning, Sanitizing, and Disinfecting* handout for safer alternatives to bleach.
- ▶ Use a paper towel to pick up the urine and droppings and dispose of them in the garbage.
- ▶ Mop floors with a disinfectant.
- ▶ Remove and dispose of gloves and wash hands.

## ACTION PLAN FOR RATS AND MICE

WHEN TO TAKE ACTION	NONPESTICIDE PRACTICES	LAST RESORT
<ul style="list-style-type: none"> <li>▶ If you see a rodent, or any evidence of rats and mice such as droppings or chewed wires.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Clean up cluttered areas.</li> <li>▶ Sanitize and keep things clean.</li> <li>▶ Seal all cracks and openings that are bigger than 1/4-inch.</li> </ul>	<ul style="list-style-type: none"> <li>▶ Identify rodent pathways by looking for rub marks or trails of urine.</li> <li>▶ Use snap or electrocution traps (such as a Raticator™) and make sure they're out of children's reach.</li> </ul>
		<ul style="list-style-type: none"> <li>▶ Contact a pest management professional to help with traps. Do not use rodenticide baits.</li> </ul>

## LESS COMMON SITUATIONS

House mice may spread lymphocytic choriomeningitis, a viral disease that causes inflammation of the membrane that surrounds the brain and spinal cord. The disease can be transmitted from pregnant women to their unborn infants, and is an under-recognized cause of hydrocephalus (a buildup of fluid in the brain) in newborns. Mice can also cause salmonellosis, a form of food poisoning.

## RESOURCES

- DPR Pest Management & Licensing Branch—Frequently Asked Questions about Rodents and Rodenticides  
[www.cdpr.ca.gov/docs/dept/factshts/faq\\_rodents\\_rodenticides.pdf](http://www.cdpr.ca.gov/docs/dept/factshts/faq_rodents_rodenticides.pdf)
- University of California Statewide IPM Program: *Rats*  
[www.ipm.ucdavis.edu/PMG/PESTNOTES/pn74106.html](http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn74106.html)
- DPR Pest Info, IPM for Schools—Preventing Mice and Rats from Invading Your School [www.cdpr.ca.gov/docs/pestmgt/pubs/rats\\_color.pdf](http://www.cdpr.ca.gov/docs/pestmgt/pubs/rats_color.pdf)
- eXtension Integrated Pest Management Action Plan for Rodents  
[www.extension.org/pages/63911/ipm-action-plan-for-rodents#.VfiA1fVg4k](http://www.extension.org/pages/63911/ipm-action-plan-for-rodents#.VfiA1fVg4k)

California Childcare Health Program, University of California, San Francisco School of Nursing • [cchp.ucsf.edu](http://cchp.ucsf.edu)



Funding for the Integrated Pest Management Toolkit for Family Child Care Homes has been provided in full or in part through a grant awarded by the California Department of Pesticide Regulation (DPR). The contents of this document do not necessarily reflect the views and policies of DPR nor does mention of trade names or commercial products constitute endorsement or recommendation for use.