Least-toxic Control of Mice

The house mouse's body is brown to gray, about 3 to 4 inches long, and weighs only about ½ ounce. It has a semi-naked, dark tail about the length of its head and body combined, large ears and eyes in proportion to its head, and a pointed snout. Its upper incisors are flat and notched, and its feces is rod shaped, pointed at the ends, and about ¼ inch long.

Mouse populations will grow as large as their food, shelter, and other competing species will allow. No matter what method of control you choose, the only way to permanently rid yourself of a mouse problem is to remove their access to the food and shelter that you are providing.

Prevention

A full-grown mouse can enter your house through a hole the size of a dime. They are talented climbers and able to swim, but do not need water to survive. (They get water from their food.)

- Stuff holes in and around the house with steel wool or copper mesh, or fill them with caulk or plaster and cover with sheet metal, paying particular attention to the foundation and holes between the house and garage.
- Seal gaps around the doors by replacing worn thresholds and weather stripping, and installing door sweeps.
- Caulk openings around water pipes, electric wires, cables, and vents.
- Use hardware cloth to screen vents, floor drains, and any other openings.
- Raise woodpiles at least 12 inches from the ground (and pet cages, if mice find them interesting), and wrap the legs in galvanized sheet metal to prevent the mice from climbing them.
- Cut tall grass, weeds, and brush from around the foundation and dispose of the clippings.
- Discard or recycle unused clutter around the house that may be providing a home for mice.

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- Pick up fallen fruit and rotting vegetables from the garden, and don't place food scraps at the top of the compost pile.

- Store birdseed in a sealed container, use a birdfeeder with a catch tray, and clean up around it regularly.

- Store trash, indoors and out, in a metal container with a tight cover or fastener for the lid.

- Don't leave food on counters or dirty dishes in the sink overnight.

- Keep the stovetop, oven, broiler, and kitchen floor clean (especially under the stove and refrigerator).

- Store grains, cereals, nuts, and pet foods in sealed plastic, metal or glass containers, or keep them in the refrigerator.

- Pick up any uneaten pet food before going to bed.

Monitoring
Identifying a mouse problem may be as easy as finding one scurrying across the linoleum or finding droppings on the counter.

- To be certain, sprinkle the surface that you suspect that they are frequenting with a light coating of flour. If correct, you'll find footprints in the flour and tracks from the flour, hopefully, to their point of entrance.

- Be more aware of possible mouse activity in the fall, when the cold weather hits, paying particular attention to areas where food is stored. Watch for mouse activity outdoors, in areas adjacent to houses, which may be the first sign of an impending onslaught.

Control
- **Have-a-Heart Traps** are "live" traps are meant to capture the mice so that you can release them instead of killing them. They are usually metal mesh with doors at either end. You can find this type of trap at your local hardware store, or contact Beyond Pesticides/NCAMP for a list of resources. Be sure to release mice far enough away from your house that they won't return and block off their point of entry to prevent any further infestation.

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- If you use **snap traps**, purchase traps that have expanded triggers that snap when a mouse runs over them, even when unbaited, and a clothespin-like closing mechanism, which is thin enough to allow the bait pan to be bent by hand, allowing for the regulation of trigger sensitivity. Your chances of catching your mouse are greater with a more sensitive trigger.
  Set baited traps out for a few days without setting the triggers, as mice are wary of new objects in their environment. You will also have a chance to see if your bait is disappearing, indicating that you have chosen a good location for your traps and bait that your mice enjoy. If there is no sign that your bait has been eaten, move your traps to a new location. If that doesn't work, then change your bait.

  Mice tend to scurry along the walls, often referred to as runways. Traps should be positioned at a right angle to the wall, with the bait end towards the wall. Place five to ten traps near mouse holes, one to two feet apart. If you are the lucky host to a multitude of mice, it is more likely that they will approach from more than two directions. Try setting the traps in pairs parallel to the wall, with bait pans facing outwards. Traps should always be handled with gloves, as mice are sensitive to the odor of humans. Coating the trap with bacon grease will also help to mask your scent.

  Bait should be sticky so that the mouse will disturb the trigger mechanism even if it only touches the bait lightly. Good choices include peanut butter mixed with rolled oats, raisins, gum drops, or even a small piece of cotton that your little friends will attempt to acquire for nesting material. Various baked breads have also had great success rates, with trap shyness minimized by alternating the type of bread used.

- **Glue traps.** Many people object to glue traps because they don't kill the mouse immediately and may trap non-target species. The Center for Disease Control cautions against the use because urine that may be excreted from a frightened mouse can spread germs. A mouse that does die in the trap can contain pathogens that are also a health hazard.

  Another problem with the glue traps is what to do with the living mouse once it has been caught. Traps need to be checked at least once daily and, once trapped, must be killed quickly and humanely. The American Veterinary Medical Association (AVMA) has a guide on acceptable euthanasia and has denounced glue or sticky traps, unless it is required for pest control. Though it is sometimes suggested by trap manufacturers, drowning is explicitly

illegal in many jurisdictions. For these reasons, many animal welfare groups and individuals have identified this as an unacceptable measure for mice control.

However, in the case of very large infestations, sticky traps may be a suitable option after other methods—including exclusion, sanitation and have-a-heart or snap traps—have been exhausted. Where mice can sometimes escape from snap traps or are unwilling to crawl inside unfamiliar enclosed objects, sticky traps can be effective; they are also good for hard-to-reach places or where it is difficult to gain access to mouse runways. Before deciding to use this product, it is important that people be strongly informed of the potential hazards and cruelty associated with their use.

As with any method of trapping, be sure to block the area off where you have set your traps to prevent your children, pets or any other non-target species from getting hurt or exposed to nasty pathogens from the dead and live mice.

- **Repellent sound devices** disrupt the sound communication between mice and repel rodents by generating a sound that annoys them, but at a frequency that is not heard by humans. There is little scientific proof that this is an effective method of control, though there have been reports of success using these devices. One example is a solid-state electronic unit that uses a patented method of directing variable pulsating frequencies onto a carrier, usually either the electrical wiring of a building or home, the metal gridwork within a building or the earth around the building, depending on where the unit is used. In your home, it would plug into a three-pronged electrical outlet and use the building's existing wiring to carry a variable, pulsating frequency that would distress your mouse visitors, causing them to leave. This system is designed to affect mice no matter where they are, between walls, in ceilings, and below floors. It is best used with another method of control for the first few months during the "flushing out" period, and when accompanied by habitat modification.

- **Cats** may be effective in knocking off the occasional mouse, but it is unlikely that they will be capable of suppressing an established mouse problem. If you decide to get a cat, females are more predacious than males, especially if they have a new litter or have been trained by a good mouser. Only count on your cat to prevent initial mouse entry or to detect and remove new mouse colonizers, and remember that, in the small amount of time it lives in your

house, a mouse may have time to contaminate food, destroy furnishings, or spread pathogens over clean dishes.

- Outside, the mouse has many **natural enemies**, including native hawks, owls, snakes, mites, ticks, fleas, flies, nematodes, bacteria, and viruses. Maintaining parks with wild areas within urban settings can encourage these beneficial organisms.

Rodenticides and Bait Boxes

Chemical mouse control includes rodenticides (baits and tracking powders) and bait boxes. Mice nibble rather than eat large quantities at a time, so any rodenticide that you consider will need to be used at high concentrations, which means an increase in the hazards to nontarget species. If you decide to use poisons, be sure to block off the areas where you have placed them to minimize the chance of an accident.

- **Bait boxes** are plastic or metal boxes with the anticoagulant bait placed inside. The bait is protected from the elements, humans and pets are more protected from unintentional exposure to the bait, and the amount of bait being taken by the mice can be more carefully monitored. Bait boxes may also help increase the amount of food (and, with the food, poison) taken in by the mouse. Contact Beyond Pesticides for a list of resources for bait boxes.

- **Tracking powders** are extremely hazardous and should really be left to a professional pest control operator. Single-dose baits are high-concentration poisons. They are restricted materials that require a permit and can only be applied by professionals.

- The most commonly used household rodenticides are **multiple-dose anticoagulant baits**. These chemicals are ingested in smaller doses over several days, and essentially work by preventing the mouse's blood from clotting, causing it to bleed to death internally. There is still some risk of poisoning nontarget species, even with the lower doses of poison, and are also reports of mice becoming resistant to some of the most common of the anticoagulants — warfarin, chlorophacinone, bridufaciynm and broma-diolone.

References

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