

INTEGRATED PEST MANAGEMENT: GOPHERS



Pocket gophers, often just called gophers, are rodents that get their name from their cheek pockets, used for carrying food.

Why are gophers a problem?

Gophers often invade yards and gardens and feed on garden plants, vines, shrubs, and trees. One gopher can build up several mounds of soil in a day from its burrowing activities. These mounds are a tripping hazard for children.

What do gophers do?

Gophers live in a tunnel system that they dig. They're active year-round and at all hours of the day. They usually live alone in their tunnels, except when females are caring for their young or during the breeding season (late winter to early spring).

IPM Strategies

The sooner you detect gophers and do something about them, the better.

1 PROBE FOR BURROWS

Successful trapping or baiting depends on accurately locating the gopher's main burrow. To locate the main burrow, use a gopher probe. You can buy or make one using a pipe and metal rods. To find burrows, locate fresh mounds that are visible above ground. These are the plugged opening of cross tunnels.

You'll find the main burrow about 8 to 12 inches from the plug side of the mound, it's usually 6 to 12 inches deep. When the probe hits the gopher's burrow, you'll notice a sudden drop of about 2 inches. You may have to probe repeatedly to locate it.

2 USE TRAPS

Several types of gopher traps are available. The most common is a two-pronged, pincher trap. To set traps, first locate the main tunnel (see above). Then, use a shovel to open the tunnel wide enough to set traps in pairs facing opposite directions. Check traps often and reset as needed. If you haven't captured a gopher within two days, reset the trap in a different location.

3 PROTECT PLANTS WITH UNDERGROUND FENCING

Lay hardware cloth or $\frac{3}{4}$ -inch poultry wire under raised beds or lawns before planting.

4 MANAGE

Monitor regularly for re-infestation. If you need to use a rodenticide, contact a pest management professional.

ACTION PLAN FOR GOPHERS

WHEN TO TAKE ACTION	NONPESTICIDE PRACTICES	LAST RESORT
<ul style="list-style-type: none"> ▶ When you notice gophers or mounds. Gopher mounds are horseshoe shaped and the entrance is usually off to the side. 	<ul style="list-style-type: none"> ▶ Create buffer around perimeter of yard by removing weedy areas. ▶ Use traps. 	<ul style="list-style-type: none"> ▶ Underground hardware cloth or poultry wire, buried at least 2 feet deep. ▶ Contact a pest management professional.

RESOURCES

- University of California Statewide IPM: *Gophers*
www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7433.html
www.ipm.ucdavis.edu/QT/gopherscard.html

- Gopher IPM at School Video
www.youtube.com/watch?v=pxezCNILIP8&index=8&list=PLgU4sA8HrUfrRUCWS-r1ZcXrZL9zXsrJ0e

INTEGRATED PEST MANAGEMENT: GROUND SQUIRRELS



Ground squirrels are brownish-gray rodents that forage above ground near their burrows. Ground squirrels are 9 to 11 inches long, not counting their bushy tail, which adds another 5 to 9 inches.

Why are ground squirrels a problem?

Ground squirrels damage garden plants and fruit and nut trees. They can also cause damage to building foundations, fences, and levee systems. Their burrows create tripping hazards.

Ground squirrels can carry diseases harmful to humans. A major concern is bubonic plague, transmitted to humans from the fleas that the squirrels carry. If you find squirrels or other rodents dead for no reason, notify public health officials.

What do squirrels do?

Ground squirrels live in colonies in burrow systems where they sleep, rest, rear young, store food, and avoid danger. They are active during the day, mainly midmorning through late afternoon, especially on warm, sunny days.

IPM Strategies

1 USE TRAPS

Traps work best between February and October when ground squirrel numbers are low to moderate.

Use a trap that kills since it's illegal to release trapped squirrels elsewhere.

Types of kill-traps include:

- ▶ **Box traps**—place box-type traps in a covered box with a 3-inch diameter entrance to reduce hazards to children and pets.
- ▶ **Tunnel traps**—place on the ground near squirrel burrows or runways and bait them with walnuts, almonds, oats, barley, or melon rinds.
- ▶ **Conibear traps**—Place the trap directly in the burrow opening, so the squirrel must pass through it, tripping the trigger.

Inspect traps once a day and remove dead squirrels with protective gear. You can use plastic bags slipped over your arms as gloves. Hold the animal with one hand and slip the plastic bag inside out over the animal and off your hand.

2 HIRE A PEST MANAGEMENT PROFESSIONAL (PMP)

A PMP will know how and when to use toxic baits and fumigants (gas cartridges). While these products are available at local hardware and home improvement stores, they can still seriously harm or kill children when not handled by PMPs.

ACTION PLAN FOR GROUND SQUIRRELS

WHEN TO TAKE ACTION	NONPESTICIDE PRACTICES	LAST RESORT
<ul style="list-style-type: none"> ▶ When you notice ground squirrel burrows. Burrows are about 4 inches in diameter and are not plugged. 	<ul style="list-style-type: none"> ▶ Remove brush piles and debris. ▶ Destroy old burrows. ▶ Use traps. 	<ul style="list-style-type: none"> ▶ Hire a pest management professional to use baits or fumigate.

RESOURCES

- University of California Statewide IPM: *Ground squirrels*
www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7438.html

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