

INTEGRATED PEST MANAGEMENT: SNAILS AND SLUGS



Snails have an outside spiral shell that protects their bodies, while slugs don't have a shell. Both can vary in size from a small speck to a few inches long. They move by gliding and leaving a slime trail where they've been.

When are snails and slugs a problem?

Snails and slugs are harmless to humans, but they can be pests in the garden. They feed on plants by making holes in the leaves, and eating seedlings and low-growing fruit such as strawberries. In childcare programs, children may find them in the garden or on the sidewalks, pick them up, play with them, and even eat them. Eating snails is not a health concern, however snail baits that contain metaldehyde are.

Where are snails and slugs found?

Snails and slugs hide during the day and come out at night to eat since they don't like heat and bright light. They're also active on cloudy or foggy days. They hide under boards, stones, garden debris, grassy or weedy areas, and leafy branches close to the ground or in any other cool, moist area. In cold weather, they hibernate in the soil. During hot, dry periods, snails seal themselves off and attach themselves to fences, tree trunks, or walls.

IPM Strategies

You may have snails and slugs if seedlings suddenly disappear, leaves develop irregular holes, slime trails cover walls and walkways, or you see snails or slugs gliding across lawns or sidewalks early in the morning.

1 KEEP SNAILS AND SLUGS OUT OF GARDENS

- ▶ Eliminate daytime hiding places by turning over boards or rocks.
- ▶ Grow vegetables and flowers in the sunniest place possible to avoid snails and slugs hiding in shady areas.
- ▶ Use copper barriers around planting beds and trees to give snails and slugs an electric shock. Snails' slime creates a small electrical shock. They'll stop in their tracks and turn around rather than cross the copper to food. You can buy copper stripping at hardware and garden stores.

2 REMOVE SNAILS' AND SLUGS' FOOD, WATER, AND SHELTER

- ▶ Plant some snail-proof plants such as:
 - ▷ Impatiens, geraniums, begonias, lantana, and nasturtiums.
 - ▷ Plants with stiff leaves such as sage, rosemary, and lavender.
- ▶ Use drip irrigation instead of sprinkler irrigation to reduce humidity and moisture. Drip irrigation reduces excess water by bringing water directly to the roots of plants and lawns.

3 REDUCE THE POPULATION

- ▶ Handpick snails and slugs:
 - ▷ Water the infested area in the late afternoon.
 - ▷ Once dark, put on gloves and use a flashlight to find snails or slugs.
- ▶ Discard snails or slugs:
 - ▷ Place them in a plastic bag and dispose of them in the trash.
 - ▷ Drown them in a bucket with soapy water and dispose of them in your compost pile once dead.
 - ▷ Crush them and leave them in the garden.
 - ▷ Remove snails from undersides of wooden decks, meter boxes, or low ledges on fences.

Take live snails to a duck pond. Snails are much better for ducks than bread. Make sure you haven't baited the snails—you wouldn't want to poison the ducks.

[IPM Strategies continued]

4 TRAPS

- ▶ Sugar water and yeast mixed together in a plastic container will also attract snails and slugs. Make sure to have deep, vertical sides to keep snails and slugs from crawling out. Scrape off and remove them daily.

If you have a lot of snails or slugs, repeat this daily. After a few days, most will be gone, then monitor weekly.

5 BAITS

- ▶ Never use baits that contain metaldehyde—they are extremely poisonous to children, dogs, and birds. Instead, use baits that contain iron phosphate, which are relatively safe. Be sure to follow label directions.
- ▶ Water before applying baits and apply in warm evenings when snails and slugs are active.
- ▶ Spread bait around moist areas where snails and slugs travel.

ACTION PLAN FOR SNAILS AND SLUGS

WHEN TO TAKE ACTION	NONPESTICIDE PRACTICES	LEAST HARMFUL PESTICIDE	LAST RESORT
<ul style="list-style-type: none"> ▶ When you see snails or slugs, their slime trails, or leaves with a lot of irregular holes. 	<ul style="list-style-type: none"> ▶ Eliminate daytime hiding places. ▶ Grow plants that snails and slugs like to eat in sunny areas where they are less likely to travel. ▶ Use copper barriers. ▶ Eliminate moisture by using drip irrigation. ▶ Grow plants that snails and slugs don't like to eat. ▶ Build wooden traps. 	<ul style="list-style-type: none"> ▶ Use iron phosphate baits. 	<ul style="list-style-type: none"> ▶ Consult with a gardener familiar with IPM.

RESOURCES

• University of California Statewide IPM Program: *Snails and Slugs*
www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7427.html

• Our Water, Our World: Controlling Snails and Slugs in Your Garden
www.recyclenow.org/pdf/snails_and_slugs_ipm_09.pdf

California Childcare Health Program, University of California, San Francisco School of Nursing • 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.