CONTROLLING SNAILS AND SLUGS IN YOUR GARDEN

Amazing as it seems, our pest snails were originally imported from France for culinary purposes. Unfortunately, they escaped to become a major garden and agricultural problem. Snails and slugs are closely related. They both have soft, oblong bodies and produce quantities of slime to help them move around. The most obvious difference is that snails have shells.

DETECTION

Are your vegetable and flower seedlings being devoured overnight? Are you finding large ragged holes in your prized ornamentals? Do you see slime trails across your walkways? If so, your garden is probably harboring snails and slugs.

Snails and slugs are active mostly at night and on dark, cloudy days. On sunny days they can be found in moist, shady spots. Look for their eggs in the soil (about an inch down) or under rocks, boards, or plant debris. The eggs are laid in masses of up to 100 and resemble small pearls. When you find eggs, crush them or scoop them into a plastic bag, seal it, and put the bag in the garbage.

LESS-TOXIC CONTROLS

Keeping down the population of slugs and snails requires persistence. By using a combination of two or more of the following methods, you should be able to reduce their numbers, and keep snails and slugs at acceptable levels in the garden.

Hand-pick at Night

- To be effective, hand-picking must be thorough and it must be done regularly. Collect nightly until it's hard to find snails and slugs, then check once a week.
- The best time for hand-picking is before dawn or after 10 or 11 pm when they come out to feed. You can go out earlier, but you won't find as many.
- A flashlight and pair of gloves or tongs will make collecting these slimy creatures easier.
- Crush snails and slugs completely (otherwise they may recover and walk away) or drown them in a pail of soapy water (they survive in plain water). A few dead snail and slug bodies left on the soil surface will attract more snails and slugs and make your collecting easier, but large piles will breed flies. Burying crushed mollusks 3 or 4 inches underground will add nutrients to the soil and avoid fly problems.

Use Barriers

Before using barriers, hand-pick for a couple of nights. After the barriers are in place, check for snails and slugs caught inside the barrier.

- Wrap a strip of copper (Safer Slug and Snail Copper Barrier Tape) around a tree trunk, flower pot, or the wooden sides of garden beds or fences. Snails and slugs are repelled by the unpleasant reaction between their bodies and the copper.
- Cover seedlings with small cages made from plastic or galvanized metal window screen. Push the cages into the soil so snails and slugs can't squeeze under.
- Cover rows of vegetables with special horticultural fabric (Fast Start, Seed Blanket) that lets in light and water but excludes snails and slugs.
- Use a product like SlugStop (coconut oil soap) to repel slugs and snails. Apply the material in a ring around individual plants.

- Snails and slugs may cross barriers such as diatomaceous earth, lime, sawdust, ashes, etc., especially when these barriers are wet. Lime, sawdust, and ashes can also be detrimental to your soil.

Use Traps

- Snails and slugs can be trapped under upside-down flower pots, dark-colored plastic sheeting, and wooden boards. Place these traps around the garden and collect snails and slugs in early morning.
- Homemade or commercial pit traps that use beer or yeast mixtures to lure snails and slugs to a drowning death may help, but hand-picking will probably still be necessary.

Encourage Natural Predators

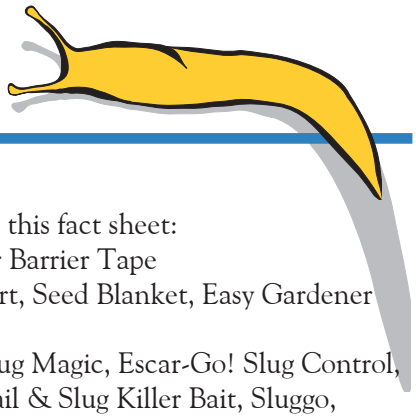
Many common ground beetles kill snails and slugs. Most of these beetles are large (1 to 2 inches), black, tank-like creatures. They are found in the same moist habitats as their prey: under rocks, boards, leaves, etc. Avoid killing these allies.

Use Iron Phosphate Bait

- Choose a bait product carefully. Baits containing methiocarb kill earthworms and beneficial insects.
- Baits containing iron phosphate (see product list below) are safer for children and pets than baits containing metaldehyde. Nevertheless, always keep this and all other pesticides out of the reach of children and pets.
- After eating iron phosphate, snails and slugs stop feeding and die within 3 to 6 days. They often crawl into secluded places, so you may not see dead bodies.
- Reapply iron phosphate baits every 2 weeks.

PREVENTION

- Snails and slugs find large expanses of ivy, nasturtiums, and other succulent ground covers particularly attractive, and they also hide in clumps of agapanthus, lilies, daffodils, and iris. They are less attracted to plants with dry, hard leaves like rhododendrons, junipers, and bamboo. If you can't remove the attractive plants, regularly search them for pests.
- Moisture makes an area much more attractive to snails and slugs. Avoid over-watering and use drip emitters to deliver water only where it is needed. Water early in the day to allow the area to dry out before nightfall. It may be necessary to remove mulch from areas with severe problems.
- Remove any boards and flower pots that you aren't using as traps.



PRODUCTS

Examples of trade names of products listed in this fact sheet:

Copper Barrier: Safer Slug and Snail Copper Barrier Tape

Horticultural Fabric (Row Cover): Fast Start, Seed Blanket, Easy Gardener Plant and Seed Blanket

Baits containing Iron Phosphate: Bonide Slug Magic, Escar-Go! Slug Control, Garden Safe Slug & Snail Bait, Natria Snail & Slug Killer Bait, Sluggo, Spectracide Snail & Slug Killer Bait, Worry Free Slug & Snail Bait

PESTICIDES AND WATER POLLUTION

Common household pesticides show up in treated wastewater and in local waterways, sometimes at levels that can harm sensitive aquatic life. So, water pollution prevention agencies have teamed up with participating retail stores, pesticide distributors, and manufacturers to reduce the risks associated with pesticide use. This fact sheet is part of a series of fact sheets and store displays aimed at educating residents about less-toxic pest management. For the rest of the series of fact sheets, visit www.ourwaterourworld.org. Also, look for the "**Our Water Our World**" logo next to products in participating stores and nurseries. See the Pesticides and Water Pollution fact sheet for information on active ingredients in common pesticides that may cause water quality problems.

Pest control strategies and methods described in this publication are consistent with integrated pest management (IPM) concepts, and are based on scientific studies and tests in actual home and garden settings. **Use suggested products according to label directions and dispose of unwanted or leftover pesticides at a household hazardous waste collection facility or event.** For more information on pesticide disposal, call 1-800-CLEANUP or visit: www.1800CLEANUP.org. No endorsement of specific brand name products is intended, nor is criticism implied of similar products that are not mentioned.

ACKNOWLEDGMENT

The Central Contra Costa Sanitary District originally developed this IPM outreach program.

FOR MORE INFORMATION

For more information, contact:

Bio-Integral Resource Center (BIRC)
(510) 524-2567; www.birc.org

University of California Cooperative Extension Master Gardeners in your area (in the phone book)

University of California IPM website:
www.ipm.ucdavis.edu

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