

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 foundation walls, sidewalks, and even on plant leaves? 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 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 can 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 (Surefire® Slug and Snail Copper Barrier Tape) around tree trunks, flower pots, 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 them. Plastic jugs with the bottoms cut out, anchored firmly in the soil, with the caps off for ventilation also work well.
- Cover rows of vegetables with special horticultural fabric (Fast Start®, Seed Blanket) that lets in light and water but excludes snails and slugs.
- Snails and slugs may cross barriers such as diatomaceous earth, lime, sawdust, ashes, etc., especially when these barriers are wet. Excessive amounts of lime, sawdust, and ashes can also be detrimental to your soil.
- Crushed eggshells used as a barrier can be an effective method; they are not detrimental to your soil and do not easily wash away with moisture.

USE TRAPS

- Snails and slugs can be trapped under upside-down flower pots, dark-colored plastic sheeting, and wooden boards. Place traps around the garden and collect snails and slugs in early morning.
- Homemade or commercial pit traps that use beer or yeast mixtures have been used to trap snails and slugs; however, they provide variable control so handpicking will probably still be necessary.

ENCOURAGE NATURAL PREDATORS

There are many natural snail and slug predators, such as birds and ground beetles. Birds love to eat snails, which are an important part of their diet. 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.

INTRODUCED PREDATORS

The decollate snail, *Rumina decollata*, is a very effective natural predator against the brown garden snail. This snail is smaller and its shell looks like a seashell. The decollate's primary food source is small snails (larger snails will have to be handpicked); however, they also will feed on seedlings if no smaller snails are present. They should only be released in perennial beds where brown snails breed, rather than in your annual beds.

Decollate snail introductions in California are permitted only in certain counties (Ventura being one of them). Releases in other areas may be illegal because they can decimate native snail and slug populations of ecological importance. Check with your county agricultural commissioner to determine whether introductions are permitted in your location.

USE IRON PHOSPHATE BAIT

- Choose a bait product carefully. Baits containing methiocarb kill earthworms & beneficial insects.
- Baits containing iron phosphate (such as Sluggo® or Escar-Go®) 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. Never pile bait up in mounds or clumps; piling makes it attractive to pets and children.

- 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.
- Baits are also toxic to the decollate snail.

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 because bait placed in ivy or other areas of heavy foliage is usually not very effective.
- 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.
- Snails and slugs often can be controlled by simply removing their habitat. Eliminate any boards or flower pots that you aren't using as traps and clear weedy growth and other daytime shelter to the extent possible.



PESTICIDES & WATER POLLUTION

Pesticides can damage our health and kill beneficial insects necessary for a healthy garden. Common household pesticides show up in our waterways, sometimes at levels that can harm sensitive aquatic life.

The County of Ventura Environmental and Energy Resources Department is working with local nurseries and hardware stores to reduce the risks associated with pesticide use. This fact sheet is part of a series of informative publications and store displays designed to educate Ventura County residents about less-toxic pest management.



Look for the "Our Water Our World" logo next to products in participating nurseries and hardware stores throughout Ventura County. For a list of participating stores, call 805/289-3333 or visit <http://www.wasteless.org>

Pest control strategies and methods described in these publications are consistent with Integrated Pest Management (IPM) concepts, and are based on scientific studies and tests in actual home and garden settings. IPM is an environmentally sound approach to pest management combining various methods with good horticultural practices. Follow all label directions on any suggested products. NO endorsement of specific brand name product is intended, nor is criticism implied of similar products not mentioned. Different products with the same active ingredients are equally suitable.

HOUSEHOLD HAZARDOUS WASTE COLLECTION PROGRAMS

Most cities offer FREE monthly collection events that accept pesticides, fertilizers, latex and oil based paint, motor oil and filters, car and household batteries, pool chemicals, stains, solvents, fluorescent light tubes, automotive fluids, cleaning products, photographic chemicals and more. For more information and collection schedules call 805/289-3333 or visit www.wasteless.org.

FOR MORE INFORMATION

Participating stores have been provided books on Integrated Pest Management (IPM) you may use while in the store. The store staff has been extensively trained in IPM to assist you.

The Certified Master Gardener Program operated by the University of California Cooperative Extension provides a free assistance Helpline and offers a variety of workshops and school education programs. Call 805/645-1455.

Check these websites:

<http://www.watoxics.org>

<http://www.ipm.ucdavis.edu>

<http://www.pesticide.org/factsheets.html>

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PRODUCTS

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

Copper Barrier: Surefire® Slug and Snail Copper Barrier Tape

Horticultural Fabric (Row Cover): Fast Start®, Seed Blanket

Baits containing Iron Phosphate: Sluggo®, Escar-Go®, Worry Free®