Controlling Garden Snails and Slugs

Garden slugs and snails are a common problem in the United States, but they can be controlled. They are a particular problem with such garden ornamentals as hostas.

Snails and slugs are members of the animal group Mollusca which includes oysters, clams and octopuses. The snail's soft body is protected by a spiral shell. Shells of snails vary in color from off white to brown or black, and may be striped or mottled with contrasting colors. Slugs do not have shells. They are usually mottled with shades of gray, but may be whitish yellow, brown or black. Slugs vary in length from 1/2 - 4".

Slugs and snails can become a nuisance around the home and garden. They can destroy plants, mess up surfaces with their slimy trails and ruin a relaxing evening on the porch by crawling around Snails and slugs cause damage to seedlings, flowers, vegetables and shrubs. In greenhouses, they assault young seedlings and the more succulent parts of plants. They also annoy homeowners through their presence around foundations, in cellars, on walks and in window wells.

It is easy to identify slug or snail damage. Snails and slugs chew ragged holes in the leaves of plants. Caterpillar damage on leaves is evident by the edges of the leaves being chewed.

These pest are found on molds, decaying organic matter and on foliage of plants. They require large amounts of moisture to survive and prefer darkness. Mainly nocturnal, slugs and snails come out of their hiding places to feed in the evening. They chew ragged holes in the leaves of plants and return to their hiding places in early morning.

Favorite hiding places for these pests are under old decaying boards and logs, in rock piles and beneath damp refuse such as leaves under plants.

Slugs leave a silver-colored slimy trail wherever they travel. The trails can be spotted on foundation walls, basement floors, walks and leaves.

Elimination of slugs and snails begins by eliminating their hiding places. Remove rotted boards and debris from the premises. Keep the area around flower beds clear of trash. In greenhouses, check under rotted boards, flower-pots and debris beneath benches.

Metaldeyde, metaldehyde/ carbaryl or iron sulfate (Sluggo or Escar-go) baits are recommended chemicals for controlling slugs and snails. Baits can be hazardous and should not be used where children and pets cannot be kept away from them. Iron Phosphate bait has the advantage of being safe for use around domestic animals and

wildlife. Most garden centers sell a slug and snail bait. The bait should be placed on the soil surface in the vicinity of the plants and the treated area can be covered with several sheets of newspaper soaked with water. Apply the bait in the afternoon or at night. If possible, do not use the bait just before a rain, as its effectiveness will be reduced.

Diatomaceous earth (D.E.) has been widely used for organic slug control, but it's far from ideal. You have to reapply it after every rain. And even so, the results are spotty. We've seen slugs actually "slime" their way right over a pile of D.E. to get to the plants they covet! Beer baits aren't as effective as many are led to believe. Saucers or containers of beer are buried at ground level. Slugs are attracted to the yeast smell and drown, with a smile on their faces. However, the slug population is usually so large that ten or more saucers need to be buried, emptied daily and refilled. Cans with plastic lids can be used with holes cut into the side and buried to the hole; this prevents animals from discovering the beer and draining the slug-bait
Slugs are in every garden, and cause more damage than most garden invaders. Commercial slug killers are available, but they can be toxic to birds and other wildlife, and are less effective after rain, when slugs are most active.

Here are a few alternative natural, non-toxic methods of slug control:

• Watering Schedule
Far and away the best course of action against slugs in your garden is a simple adjustment in the watering schedule. Slugs are most active at night and are most efficient in damp conditions. Avoid watering your garden in the evening if you have a slug problem. Water in the morning - the surface soil will be dry by evening. Studies show this can reduce slug damage by 80%.

• Beer
Slugs are attracted to beer. Set a small amount of beer in a shallow wide jar buried in the soil up to its neck. Slugs will crawl in and drown. Take the jar lid and prop it up with a small stick so rain won't dilute the beer. Leave space for slugs to enter the trap.

• Seaweed
If you have access to seaweed, it's well worth the effort to gather. Seaweed is not only a good soil amendment for the garden, it's a natural repellent for slugs. Mulch with seaweed around the base of plants or perimeter of bed. Pile it on 3" to 4" thick - when it dries it will shrink to just an inch or so deep. Seaweed is salty and slugs avoid salt. Push the seaweed away from plant stems so it's not in direct contact. During hot weather, seaweed will dry and become very rough which also deters the slugs.

• Copper
Small strips of copper can be placed around flower pots or raised beds as obstructions for slugs to crawl over. Cut 2" strips of thin copper and wrap around the lower part of flower pots, like a ribbon. Or set the strips in the soil on edge, making a "fence" for the slugs to climb. Check to make sure no vegetation hangs over the copper which might provide a

'bridge' for the slugs. Copper barriers also work well around wood barrels used as planters.

• Diatomaceous Earth

Diatomaceous earth is the sharp, jagged skeletal remains of microscopic creatures. It lacerates soft-bodied pests, causing them to dehydrate. A powdery granular material, it can be sprinkled around garden beds or individual plants, and can be mixed with water to make a foliar spray.
Diatomaceous earth is less effective when wet, so use during dry weather. Wear protective gear when applying, as it can irritate eyes and lungs. Be sure to buy natural or agricultural grade diatomaceous earth, not pool grade which has smoother edges and is far less effective. Available in garden centers; it is fairly expensive.

• Lava Rock
Like diatomaceous earth, the abrasive surface of lava rock will be avoided by slugs. Lava rock can be used as a barrier around plantings, but should be left mostly above soil level, otherwise dirt or vegetation soon forms a bridge for slugs to cross.

• Salt
If all else fails, go out at night with the salt shaker and a flashlight. Look at the plants which have been getting the most damage and inspect the leaves, including the undersides. Sprinkle a bit of salt on the slug and it will kill it quickly. Not particularly pleasant, but use as a last resort. (Note: some sources caution the use of salt, as it adds a toxic element to the soil. This has not been my experience, especially as very little salt is used.)

• Overturned Flowerpots, Grapefruit Halves, Board on Ground
Overturned flowerpots, with a stone placed under the rim to tilt it up a bit, will attract slugs. Leave overnight, and you'll find the slugs inside in the morning. Grapefruit halves work the same way, with the added advantage of the scent of the fruit as bait.
Another trap method, perhaps the simplest of all, is to set a wide board on the ground by the affected area. Slugs will hide under the board by day. Simply flip the board over during the day to reveal the culprits. Black plastic sheeting also works the same way.

• Garlic-based slug repellents
Laboratory tests at the University of Newcastle-Upon-Tyne (UK) revealed that a highly refined garlic product (ECOguard produced by ECOspray Ltd, a British company that makes organic pesticides) was an effective slug killer. Look for garlic-based slug deterrents which will be emerging under various brand names, as well as ECOguard.

• Coffee grounds; new caffeine-based slug/snail poisons
Coffee grounds scattered on top of the soil will deter slugs. The horticultural side effects of using strong grounds such as espresso on the garden, however, are less certain. When using coffee grounds, moderation is advised.

A study in June 2002 reported in the journal Nature found that slugs and snails are killed when sprayed with a caffeine solution, and that spraying plants with this solution prevents slugs from eating them. The percentage of caffeine required in a spray (1 - 2%) is greater than what is found in a cup of coffee (.05 - 07%), so homemade sprays are not as effective. Look for new commercial sprays which are caffeine-based.

Slugs and snails may feed intermittently rather than every day, therefore, distributing the bait at 7 to 10 day intervals until control is achieved is recommended

Additional Link

http://www.bugspray.com/articles98/slugs.html