

Escargot!



Slug-sometimes used as a synonym for couch potato. In the biological lexicon a slug is any gastropod mollusk that has little or no shell. Gastropods with coiled shells are snails. Slugs are nocturnal chewing feeders that hide during the day. They chew large irregular holes in leaves and sometimes devour entire plants. It is easy to mistake their damage for that of other pests so look for their telltale slime trails, or after dark, take a flashlight and check under the leaves.

Since slugs' bodies are made up mostly of water, and are prone to drying out, they generate protective mucus to survive. This mucus enables them to climb into raised beds and pots and chomp away. The slime trail keeps the slug from slipping down a vertical surface and can alert other kindred slugs for the purpose of mating. Slugs are hermaphrodites, having both female and male reproductive organs and lay around 30 eggs in holes in the ground, or under the cover of logs, mulch, pots — anything moist and hidden. Most slugs lay eggs in the spring and early summer. After mating slugs lay eggs in 30 to 40 days anytime moist conditions are present. The Pacific Northwest climate provides resort conditions for these slimy pests, particularly our warm and wet summers. Slugs may breed several times with their eggs requiring a minimum temperature of 32 to 42 degrees. At minimum temperature, eggs may take as long as 100 days to hatch; at higher temperatures, development occurs in ten days to three weeks. Outdoor slugs live about one year whereas pampered greenhouse slugs may live up to two years.



Many species of slugs play an important role in ecosystems by eating dead leaves, fungus, and decaying vegetable material, but other species prefer to decimate favorite plants and vegetables. Natural predators are frogs, toads, snakes, hedgehogs, salamanders, eastern box turtles, and humans, as well as some birds and beetles. It is not practical to have enough of these creatures around to control slugs. However, some domesticated fowl-ducks, geese, or chickens-kept penned in infested areas may help, but may also eat seedlings. As the reader will notice, there is considerably less information regarding how slugs die, than how they live. What follows are some ideas for control of these slimy slitherers.

Control Hints

Cultural Control – Reduce Favorable Habitat – In our moist climate cultural control options are limited, though a more open garden with sun and proper air circulation can help. Reducing mulch to about one inch may be useful to protect from rapid drying yet not retain excessive moisture. Composting wilted or decaying material as well as removing plant remains and leaves in the fall may deprive slugs of dinner material. Employ slug psychology to divert them from prized plants, e.g. using good trap crops which include: green lettuce, cabbage, calendula, marigolds, comfrey leaves, zinnias and beans. However, one may prefer not to sacrifice these crops to the slugs. Certain plants will also repel slugs. Ginger, garlic, mint, chives, red lettuce, red cabbage, sage, sunflower, fennel, foxglove, mint, chicory and endive seem to be less prone to slug attack, so try planting them around the perimeter of your garden to keep slugs from infiltrating.

Trapping – Beer is often used for this purpose, as is any fermenting food such as a mixture of sugar, yeast and water. Create a sugar shack. Dissolve a teaspoon each of jam, sugar, and lemon juice in a glass of water, setting cups in the ground (about one inch above the soil) and be surprised at the number of slugs that fall into the cups and drown. The sweet attracts them and acid kills them. Other household items useful for luring slugs are melon rinds and fresh grapefruit (or grapefruit rinds) set out in the evening in an area plagued with the creatures. Water a portion of the garden and put down a small wooden board elevated with a rock. Lay empty flowerpots or milk cartons on their sides in a shady area. Check your traps in the morning and scrape slugs into soapy water. For those with a strong stomach, a spray of dishwater and slug carcasses will repel the critters – slugs do not like a soapy taste, nor do they like to feed on their friends.

Barriers – Create barriers around prized plants. Copper strips can be purchased at most garden departments and nurseries. Wrap the copper strip around pots, plants, and trees to create a protective barrier, also line raised beds with the copper tape – this also provides an attractive finish to the raised beds. The strips produce a shock to slugs that try to cross them. Be sure to close all gaps because they will find a way through. Pine needles, coffee grounds, crushed eggshells, or diatomaceous earth (fossilized, silica-shell remains of prehistoric diatoms that desiccate insect bodies) provide a scratchy barrier that injure slugs when they try to cross. These barriers should be reapplied after a rain. Always purchase natural diatomaceous earth because swimming-pool grade contains crystalline silica, a respiratory hazard. Lava rock, cinders, sand, sawdust, ashes and gravel are some other barriers that environmentally conscious gardeners have used. Try protecting young plants with a sandpaper collar.

Baits – The most common chemical bait available to home gardeners contains the active ingredient metaldehyde. However, metaldehyde baits are poisonous to dogs and cats. These metaldehyde snail baits should not be used where children and pets cannot be kept away from them. If these products are used, follow the directions carefully to achieve the best results. Other products which contain iron phosphate (trade names include Sluggo, Worry Free, and Escar-Go) are safer for use around domestic animals, children, birds, fish, and other wildlife.

The timing of any baiting is critical. Baiting is less effective during very hot, very dry, or cold times of the year because snails and slugs are less active during these periods. Irrigate before applying a bait to promote snail activity and apply the bait in the late afternoon or evening. Application on a warm, humid evening is ideal. Apply bait in a narrow strip around sprinklers, close to walls and fences or in other moist and protected locations, or scatter it along areas that snails and slugs cross to get from sheltered areas to the garden.

Hunting – Armed with a flashlight stalk their favorite hunting grounds at night. Pluck them and drop them into a bucket of soapy water. Salt will kill slugs; however, the salt can make the soil toxic to all but a few salt tolerant creatures and plants. A quick spray of an ammonia solution will also cause certain death.

Caffeine – Coffee addicts can be cheered. That stale bitter leftover java may be the newest weapon in the eternal battle against slugs and snails. Slugs hate caffeine, researchers have discovered. While testing caffeine sprays against the coqui frog, the United States Department of Agriculture's Agricultural Research Service in Hilo, Hawaii, noticed that a 1 to 2 percent caffeine solution killed nearly all the slugs and snails within two days. Concentrations as low as 0.01 percent put the pests off their dinner. Coffee grounds are already recommended as a home remedy for keeping slugs and snails at bay. Grounds repel slugs, researchers found, but a caffeine solution seemed to be much more effective. Caffeine is found in the beans, leaves, and fruit of over 60 plants, where it acts as a natural pesticide that paralyzes and kills certain insects feeding on the plants. Instead of tossing that stale pot of coffee, use it to spray the slugs' favorite garden hang out.

As mentioned above, plant choices can greatly affect how difficult the battle with snails and slugs will be. Because they favor seedlings and plants with succulent foliage, these plants must be vigilantly protected. Some plants that are seriously damaged include basil, beans, cabbage, dahlia, delphinium, hosta, lettuce, marigolds, strawberries, and many other vegetable plants. On the other hand, many plants resist damage from snails and slugs including begonias, California poppy, fuchsias, geraniums, impatiens, lantana, nasturtiums, and many plants with stiff leaves and highly scented foliage like lavender, rosemary, and sage. Most ornamental woody plants and ornamental grasses are also not seriously affected. Using such plants in the landscape may limit damage from snails and slugs.

For more information on the types and habits of our Pacific Northwest slugs see the March 2006 article [Slugs](#).