

**insect answers**



## SLUG CONTROL

In the moister areas of Washington, slugs are probably the most frequent pests of home ornamental and vegetable plants. There are several slug species in Washington. The most common are the gray garden slug, *Deroceras reticulatum*, and European slug, *Arion ater*.

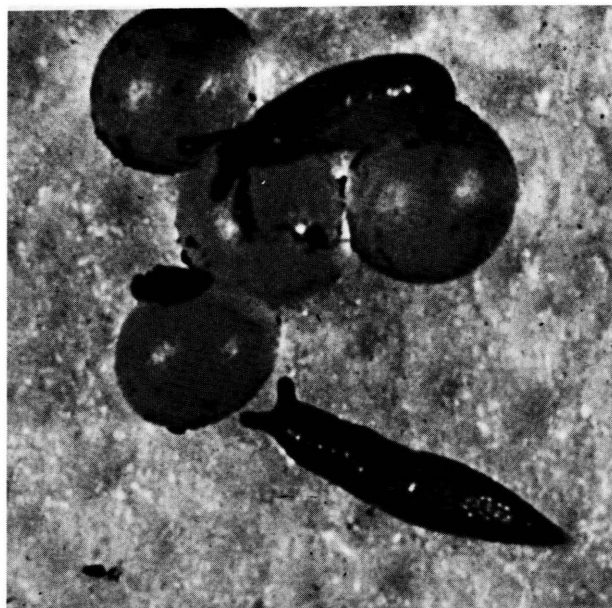
### Host Plants and Damage

Slugs eat many kinds of plants. Corn, lettuce, beans, and flowers of all kinds are but a few of the hosts. Ripened strawberries are particularly attractive to slugs. Slugs may totally consume young plants or chew large, ragged unsightly holes in foliage. When slugs move or glide across surfaces, they leave a slime trail which appears silvery when dry. This is a good

indication of what did the damage, even if the "guilty party" is no longer present. Slugs are particularly dependent on moisture for development and extent of activity; thus, losses from slugs will be more serious during rainy, cooler weather.

### Description and Biology

Slugs belong to a large group of animals called the Molluscs. This group includes clams, oysters, squid, and octopus, as well as slugs and snails. Slugs are most closely related to snails; in fact, slugs are generally thought of as snails without shells. Snails cause similar damage but usually are not as serious a pest in the Pacific Northwest.



**Baby slug and eggs.**



**Slug damage.**

Slugs vary in length, depending on species and age, from 1/4 inch to as much as 10 inches. They are elongate with a prominent dorsal, fleshy mantle that encloses the vital organs.

They move or glide on a ventral organ called the foot. The foot secretes the slime which helps them move. They also possess conspicuous retractable eye stalks on the head.

Slugs are hermaphroditic. This means that each slug has both male and female reproductive systems. Offspring are produced by cross-fertilization or mating. Slugs can live from 12 months to 2 years. Slugs reach sexual maturity before attaining full development, and they can begin to lay eggs when they are as young as three months, depending on moisture and food conditions. Eggs can be laid anytime during the year; however, laying decreases during drier or colder weather.



Slug.

Each slug is capable of laying up to 400 eggs in a year's time. They are laid in small groups of 3 or 4, or as many as 30 or 40. Eggs are laid in moist places, such as under stones, in plant debris, or under boards. Eggs are round or oval, about 1/8 to 1/4 inch in diameter, and colorless to milky white. If conditions are right, they hatch in a few weeks, but if the weather is hot and dry, hatching may be delayed until weather becomes favorable. Baby slugs resemble adults in shape. They may not assume adult coloration until later in development.

Slugs are largely nocturnal. They feed during the night and on overcast, cool, cloudy days. If the weather is

hot and dry, slugs hide beneath stones, boxes, boards, and under dense plant cover such as ivy. Slugs avoid dry, dusty areas.

## Control

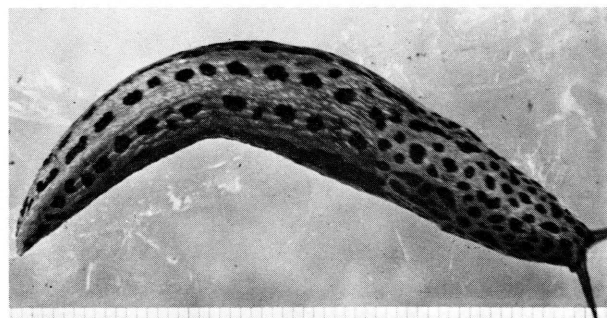
**Natural enemies.** Garter snakes, birds, and frogs are some of the common predators of slugs. Among domesticated animals, ducks and geese are effective predators.

**Sanitation.** Many objects, such as rocks, boards, and compost piles, provide shelter for slugs. Remove such sites to reduce both slug and snail numbers. Gardens next to areas of tall grasses and weeds are particularly susceptible to slug invasion. Eliminate these sites since they provide excellent protection for slugs.

**Mechanical control.** Stale beer attracts slugs and many insects as well. Cans of beer sunk into the soil in and around the garden area have proved useful in slug control. The slugs crawl into the liquid and drown. Over the years, homeowners and popular garden articles have stated that cinders, wood chips, or sand used as borders along gardens provide effective barriers against slug invasion. This probably works because it eliminates favorable slug habitats. Picking, stabbing, cutting, and other laborious methods can be used to control slugs. However, this will be an endless task unless hiding places, such as tall grasses and debris, are eliminated.

There are a number of commercially sold apparatuses such as barrier fences or slug inhibitors of some kind. Many of these have not yet been tested by Washington State University; however, some do show promise.

**Chemical control.** You may use baits in accordance with labels in ornamental plantings and in edible crop



Slug.

plantings if the material does not come into contact with edible portions of the plant.

Apply baits to the soil in the evening during moist weather when slugs are active. When the weather has been hot and dry, it is helpful to sprinkle the plants and surrounding area lightly to activate slugs. Apply

the material as the label directs. Do not place bait in piles unless the piles are covered with boards or other objects; otherwise, dogs or cats may be attracted to and eat the bait. Baits lose their attractiveness to slugs when they become moldy. Various other formulations, such as sprays, dusts, and foams are available for slug control. Apply these as the label directs.

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Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

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