INTEGRATED PEST MANAGEMENT PRESCRIPTION

Slugs

Description:

Slugs belong to a large group of animals called Mollusks that includes clams, oysters, squid, octopus, and snails - slugs closest relative. Snails cause similar damage as slugs, but usually are not as serious a pest in the Pacific Northwest. Outside the garden, slugs and snails actually do good things. They recycle organic matter, which helps to build soils, and are an important part of the foodchain. Inside the garden and landscape, however, slugs and snails can do considerable damage and often must be controlled.

The most common slug species are the Gray garden slug, *Deroceras reticulatum*, and the European slug, *Arion ater*. The native Yellow green banana slug, *Ariolimax columbianus*, is most often found in wooded areas. Slugs vary in length, depending on species and age, from 1/4 inch to as much as 10 inches. They move or glide on a "foot", which produces the slime that helps them move. Their eyes are at the end of stalks, which can be drawn back into their head at the sign of danger. Slugs are active largely at night. They feed during the night and on cool, cloudy days. If the weather is hot and dry, slugs hide beneath stones, flower boxes, boards, and dense plant cover such as ivy. Slugs avoid dry, dusty areas.

Slugs have both male and female reproductive systems. Slugs can live from 1 to 2 years, and can begin to lay eggs when they are as young as three months. Slugs can lay eggs anytime during the year; however, they lay fewer eggs during dry or cold weather. Each slug can lay up to 400 eggs per year. Eggs are laid in moist, dark sites, 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 are colorless to milky white.

Impacts:

In western Washington, slugs may be the most frequent pests of ornamental plants, flowers, and vegetables. Slugs may totally consume young plants or chew large, ragged holes in foliage. When slugs move or glide across surfaces, they leave a slime trail that appears silvery when dry. This is a good clue to what did the damage. Slugs need moisture to develop and move; thus, plant damage from slugs is more serious during rainy, cool weather.

What appears to be slug damage could be the work of cutworms or other chewing insects. Accurate identification can be made by checking plants at night to catch slugs in the act or by checking for the slime trails and pretzel-shaped droppings slugs leave as they feed.

Control Options:

Thurston County's integrated pest management emphasizes cultural, biological, and manual control methods to keep pests and vegetation problems low enough to prevent damage. When chemical control is considered, the least toxic product is recommended when no other control methods would be effective or practical. Slug control can be effectively accomplished using non-chemical control options.

► Cultural / Habitat

Watering: Because slugs are most active at night and are the most efficient in damp conditions, avoid watering your garden in the evening. Water your garden in the morning so that the surface soil will dry out before nightfall.

Sanitation: Objects like; rocks, boards, and compost piles provide shelter for slugs. Remove or relocate these items to reduce both slug and snail numbers. Keep the ground around your garden mowed or bare since grass and weeds provide excellent protection for slugs. Also, clearing the area in and around your garden will increase air circulation and reduce moisture.

Barriers: Home gardeners and professionals have stated that wood chips with ashes, gritty sand, and diatomaceous earth can be used as a barrier around gardens or plants. These barriers are supposed to help keep slugs from entering an area because the material is too coarse for them to travel across.

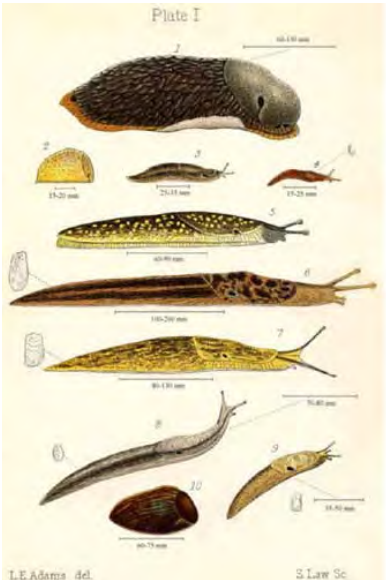
Plant Choice: In landscape areas, you can select plants that have thicker, less edible leaves.

► Biological
Ground beetles, birds, ducks, geese, frogs, and garter snakes are natural predators of slugs. Attracting them to your garden can help control slugs but may create other problems.

► Manual / Mechanical
Gathering slugs by hand can be relatively easy and effective. You will be most successful if you go out at night or early in the morning when the garden is wet and slugs are active. Intentionally leaving a board in the garden can provide shade to slugs and may help in the aid of collection (if you've removed other shaded areas). Check under the board in the morning and remove any slugs that have hidden there.

Attracting and trapping slugs in bowls of beer also works. Place a bowl in a shallow hole in your garden - allowing slugs access to the edge of the bowl, fill it with beer and slugs will crawl into the bowl and die.

► Chemical
Slug baits containing iron phosphate are effective and are considered low in health hazards and are recommended for chemical control. Each product is different so read all the directions and follow them exactly.



Timing
Fall is a good time to seek out and destroy slug eggs. Baits can be used any time slugs and slug damage are seen.

READ AND FOLLOW ALL LABEL DIRECTIONS AND RESTRICTIONS. All chemical products can cause harm if not used properly.

REFERENCES:

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