

Organic Solutions for Slugs and Snails

A Factsheet from Toxic Free NC

About Slugs and Snails

Slugs and snails are familiar garden pests of the mollusk family. They mostly eat old rotting plants, but can also eat plant seedlings, leafy greens like lettuce, and fruits that grow low to the ground, like strawberries. They may even eat tomatoes, peppers, and squashes if they are touching the ground.

Slugs and snails spend the daytime in damp, dark hiding places under rocks and boards, or in garden debris and weedy patches. They come out at night to eat, leaving behind shiny trails of mucus wherever they travel. They cause the most problems during rainy times.

Damage looks like ragged holes in the leaves, stems, and fruits. They may eat young seedlings and transplants whole, and can weaken or even kill mature plants. Because there are so many natural places for them to hide, you can't get rid of slugs and snails altogether. But, the tips below can help you keep them at a low level.

Sustainable pest management strategies usually work best when used together. Think about your garden, your resources, and your time, and put several of these tips together for a plan that works for you.

Identifying Slugs and Snails

Slugs are slimy creatures with soft bodies that range from 1/8 inch to several inches long, depending on the type of slug and how old it is. Most slugs in North Carolina are gray, black, or brown, and they may have spots. Their eyes are held high on retractable stalks.

Snails are a lot like slugs, but they carry a coiled shell on their backs. Both slugs and snails lay their eggs in groups under rocks or other hiding places. The eggs are round, clear or milky white, and look like jelly.



Gray garden slug.
Photo credit: Joseph Berger



European red slug.
Photo credit: Gary Bernon, USDA APHIS

Life Cycle

Adult moths come out of the soil in June and July after spending the winter as pupae. They lay their eggs on the leaves of plants in the “nightshade” family, and the young hornworms hatch in about 7 days. They eat for three weeks to a month, growing rapidly, before digging back into the soil to pupate. There are at least two generations each year in North Carolina.

Prevention

1) Don't provide hiding places. Slugs and snails like damp, dark hiding places under rocks, boards, flowerpots, and weeds where they rest by day and lay their eggs. Get rid of as many of these hiding places as possible. Keep fence lines and garden borders mowed short and weeded. Mulch can give slugs and snails great places to hide, whether it's natural or plastic. If you have a big slug and snail problem, you might think about pulling back mulch. But for most gardens, the benefits of mulch probably far outweigh the problems with slugs and snails.

2) Create barriers around your plants. Young seedlings and transplants can be surrounded with a one-inch high and three-inch wide circle of diatomaceous earth (DE). DE is irritating to slugs' and snails' skin, so they won't cross it. DE works only as long as it stays dry, and must be replaced after rain or heavy watering.

Copper also makes a good barrier and lasts a long time. Slugs and snails do not like copper. You might use a short copper screen around a small garden to keep them away. It should be at least six inches high, and extend below the soil at least a couple inches. You can also buy flat copper tape or foil at garden supply stores and tack it along the edge of wooden raised beds to form a barrier all the way around.



Slug eggs.

Photo credit: Mark Robinson



European brown snail.

Photo credit: Joseph Berger

Getting Rid of Slugs and Snails Without Toxic Chemicals

1) Scout and hand pick. Snails and slugs can be controlled very well by hand picking. During the day, check under stepping stones, flowerpots, and plant leaves that lay on the ground. You may also want to scout nearby ground covers such as beds of ivy. At night, especially after a rain or watering, scout the garden with a flashlight for slugs and snails that are on the move or eating. When you see them, crush them or drop them into a bucket or can of salted water (salt will kill them). Use a pair of rubber gloves to keep the slime off your fingers!

2) Lure and trap them. Lure and trap them. You can use boards, flat stones, or flower pots to trap slugs and snails. Put them around the garden, then lift the traps each day and get rid of any slugs or snails you find underneath. Another way to trap them is to put pieces of potato, apple, or citrus rinds around the garden in the early evening. The rind from half an orange or grapefruit works great after you've eaten or juiced the fruit inside. Just put the rind on the ground, juicy side down. The slugs or snails will come to those baits and gather underneath. Then, a couple hours after dark you can hand pick them and kill them.

Another type of trap uses beer. Dig out a shallow hole in the ground and set a pie plate or other shallow dish into it, so that the rim of the dish sits at the surface of the soil. Then, pour a little beer in the bottom. Slugs will crawl in to drink the beer and won't be able to crawl out.

Be sure to check your traps often and get rid of any slugs and snails you catch, otherwise you're only giving them a home!

3) Attract natural enemies. Birds, predatory beetles, and especially toads are important natural enemies of slugs and snails. You can encourage them to stick around your garden by keeping perennial herb and flower beds and small shrubs nearby.

4) Ferric phosphate bait. As a last resort, you might choose to apply a ferric phosphate bait that appears on the Organic Materials Review Institute's list of products approved for certified organic farms. When slugs or snails eat the bait, they'll stop eating your plants right away and die within a few days. Even though this bait is approved for organic farms, it can be hazardous if used incorrectly. Be sure to follow instructions on the labels very carefully. Obviously, even "organic" products come with risks and problems, so try the other tips here first, and you may be able to skip the baits altogether.

Sources

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This factsheet was written with the needs of non-commercial home, school and community gardeners in mind. Certified Organic growers, or those seeking a certification, should check with their certifying agency before using ANY insecticide. Some organically acceptable insecticides are approved for use in Certified Organic systems only against certain pests or in certain situations.