

● ALTERNATIVES

# UGH! SLUGS! PESTICIDE-FREE SOLUTIONS TO SLUG PROBLEMS

BY CAROLINE COX

Most people would agree that it's not fun to find slugs in your garden. They have what seems to be an endless appetite for plants you're trying to grow. They're also squishy and slimy. Don't give in to disgust, though, or pesticides. There are effective pesticide-free techniques for dealing with slugs so that they don't get out of control in your garden.

## What Kind of Slug Is This? Does it Matter?

There are about 40 different kinds of slugs living in the U.S., but only about half of them are considered pests. Most of the pest slugs are species that people accidentally brought to this country from other parts of the world.<sup>1</sup> Common pest slugs in the Pacific Northwest include the European black slug, the gray garden slug, and the banded slug.<sup>1-3</sup> Managing the different species of slugs is similar, so you don't need to decide which kind of slug you've got in your garden.

## Benefits

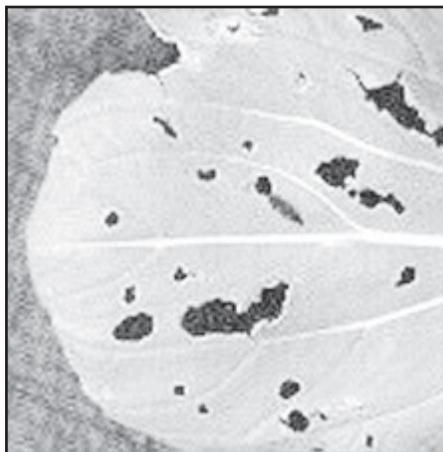
Slugs have important ecological roles. They help cycle organic matter, which in turn helps to build healthy, rich soil.<sup>1</sup> They also are food for wildlife, including raccoons, possums, garter snakes,<sup>1</sup> toads, turtles, and birds.<sup>2</sup>

## Signs of Slug Damage

Slugs are most active at night; often you won't see them in your garden during the day unless it's cool and overcast. You'll see their silvery slime trails, though, and also see damaged



A slug (above) and a leaf damaged by slugs (below).



plants. They chew large, ragged holes in leaves. They can also eat entire young plants, so that the plants completely disappear.<sup>3</sup>

## Don't Encourage Slugs

The University of California recommends that the first step in slug management is "to eliminate, to the extent possible, all places where snails or slugs can hide during the day."<sup>2</sup> These places include boards, stones, debris,

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grassy or weedy areas, and low-growing branches, if close to your garden. Some slug-friendly areas are things that you may not want to remove: ivy and similar ground covers, compost piles, the underside of decks, and water meter boxes.<sup>2,3</sup> If these areas are close to your garden, you will want to collect and remove slugs from them regularly.<sup>2</sup>

## Grab Them!

Handpicking slugs "can be very effective if done thoroughly on a regular basis."<sup>2</sup> Here are a few tips to make handpicking work well.<sup>2</sup>

- Pick slugs after dark with a flashlight. If your garden is dry, water in the late afternoon before you plan to pick.
- Wear gloves if you don't want to end up with slimy hands.
- Put your slugs in a plastic bag and throw them away. Or, put them in a bucket of soapy water and toss them on your compost pile. (This can lead to a smelly compost pile.<sup>1</sup>) You can also crush them and leave them in your garden.
- Pick slugs every day when you've got lots of slugs. Then switch to a weekly schedule.

## Traps

Slug traps are easy to make. One type of trap is made from a can or similar container. Cut a hole in the can about 1/3 of the way up from the bottom. Then bury it so that the hole is level with the surface of the soil. Put a couple of inches of beer or water and yeast into the can. The odor from these liquids is attractive to slugs. The slugs crawl in the hole, then drown. You'll need to remove trapped slugs daily, and replace the liquid every four days.<sup>1</sup>

Caroline Cox is JPR's editor.

If you don't want to make your own trap, similar traps are commercially available. One brand name is Safer ([www.victorpest.com](http://www.victorpest.com)).

Some experts believe beer/yeast traps are "not very effective for the labor involved."<sup>2</sup>

Another easily constructed slug trap is simply a board raised off the ground by small one-inch boards. You can make the trap any convenient size. Flower pots and melon rinds also are good homemade traps. Put the traps around your garden and check daily for slugs. The University of California Statewide IPM Program recommends crushing the slugs that are trapped this way.<sup>2</sup>

### Barriers

Barriers made from strips of copper sheeting "actually work quite well," according to University of Idaho extension entomologist Bob Stoltz. "They cause a reaction with the slug's mucous—sort of like an electric shock—and that repels the slugs."<sup>4</sup>

It's not hard to make your own copper barriers. Buy copper sheeting from your hardware or home improvement store. Cut it into strips, at least two or three inches wide. A favorite place to use these barriers is to protect raised garden beds. You need to make sure that you're keeping slugs out of the beds, not keeping slugs in them. Inspect carefully or use traps to get rid of any slugs already in your beds.<sup>4</sup>

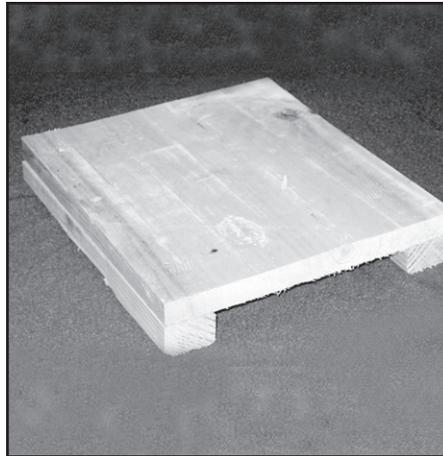
You can also use copper strips to band tree trunks; fasten the ends with paper clips so that the band will enlarge as the tree grows.<sup>2</sup>

Copper screens can be used as barriers around planting beds. The screen should be at least 6 inches tall and buried several inches in the soil.<sup>2</sup>

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### What Eats Slugs?

A variety of wildlife eats slugs,<sup>1</sup> but these animals are probably difficult to use for effective slug control in gardens. Many gardeners, however, successfully use domestic ducks, geese, or chickens to keep slug numbers down. These birds like young seedlings, so they



A simple homemade slug trap.

need to be managed so that they don't also eat your garden.<sup>2</sup>

### Caffeine

U.S. Department of Agriculture scientists recently showed that caffeine kills and repels slugs.<sup>5</sup> Caffeine is not currently registered as a pesticide in the U.S., so there are no caffeine-based slug control products available.<sup>6</sup> However, many coffee drinkers use their coffee grounds as an aromatic, nutrient-rich mulch around garden plants. If you're one of these coffee drinkers, see if your mulch also helps with slug problems.

### A Warning About Slug Bait

Many slug baits are made of metaldehyde, a chemical that is toxic to the nervous system. Often these baits also contain bran or molasses to make the bait more attractive to slugs. These ingredients also make the slug bait tastier to pets.<sup>7</sup>

Dogs and horses are both quite susceptible to metaldehyde poisoning. In dogs, metaldehyde causes anxiety, panting, vomiting, and seizures. Death from respiratory failure can occur within a few hours after eating slug bait; dogs that survive can develop liver failure.<sup>7</sup>

Laboratory tests have identified other health hazards of metaldehyde: atrophy of the testes, liver tumors, and paralysis.<sup>8</sup>

### An Alternative Slug Bait

NCAP does not recommend the use

of pesticides. However, we recognize that you may have slug problems for which you believe pesticides are necessary. If so, you might want to consider iron phosphate. Slug baits containing iron phosphate, according to the U.S. Environmental Protection Agency (EPA), have "no unreasonable adverse effects to human health," and show a "lack of toxicity" to "birds, fish and non-target insects." Iron phosphate is used as a nutritional supplement and is an abundant mineral.<sup>9</sup>

Note that EPA waived most of the tests for effects on human and environmental health that are normally required to register a pesticide because of iron phosphate's expected low toxicity.<sup>9</sup>

According to a phone call to NCAP from the company that manufactures iron phosphate slug bait, there is only one "inert" (unidentified) ingredient in these baits, wheat gluten.

### Conclusion

Try some simple steps to keep your garden free of both pesticide use and slug problems. Clear away weeds, stones, boards, and other shelter for slugs; handpick them off your plants as needed; and use slug traps and barriers when necessary. ♣

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