Assessing Pesticides

OK, so let’s say you’re considering using a pesticide for an insect or weed problem. Or someone you know is. Hopefully, alternatives have been tried — perhaps using the Integrated Pest Management (IPM) process for developing least-toxic solutions. (See IPM in TNS II/6.) Still, the pest persists at a serious level.

And you’re wondering if a particular pesticide might be the answer. OK, so let’s say you’re considering using a pesticide for an insect or weed problem. Or someone you know is. Hopefully, alternatives have been tried — perhaps using the Integrated Pest Management (IPM) process for developing least-toxic solutions. (See IPM in TNS II/6.) Still, the pest persists at a serious level.

And you’re wondering if a particular pesticide might be the answer. But, you also wonder, is it worth the risk? How toxic is this stuff anyway? How can you tell?

Nearly All Pesticides Have Risks

The first thing to understand is that nearly all pesticides risk harm to “non-target” organisms — which can include people, pets, crops, insects, and wild plants and animals.

In fact, it’s generally illegal for a manufacturer to call a pesticide safe or non-toxic. (There’s an exemption for products made from certain “natural” ingredients.) The regulation system doesn’t insist that pesticides be safe, just that they don’t cause “unreasonable” harm to health and ecosystems. And analysts have demonstrated that the system drastically underestimates pesticides’ harm by ignoring key factors and making faulty assumptions. That’s why it’s vital to assess a pesticide’s likely risks of harm, and determine if they’re really worth taking.

Types of Harm

Pesticides are assessed by looking at three categories of potential harm:

1) **Acute health harm.** Immediate harm to human health, ranging from a headache to a seizure.
2) **Chronic health harm.** Long-term human health harm, including cancer, and damage to the immune, reproductive, and neurological systems.
3) **Environmental harm.** Harm to ecosystems and animals, fish, birds, insects, plants, etc.

Start with the Label

A pesticide’s acute health effects are assessed using animal exposure tests. The results determine the product’s Toxic Category, which determines the label signal word:

<table>
<thead>
<tr>
<th>Category</th>
<th>Signal word</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (most toxic)</td>
<td>Danger</td>
</tr>
<tr>
<td>II (next toxic)</td>
<td>Warning</td>
</tr>
<tr>
<td>III (less toxic)</td>
<td>Caution</td>
</tr>
<tr>
<td>IV (least toxic)</td>
<td>Caution (optional)</td>
</tr>
</tbody>
</table>

Prioritize avoiding “Danger” and “Warning” products. And look for products with an OMRI logo (indicating acceptability for organic farming).

You can also get a sense of a pesticide’s other risks by reading the label. For instance, if it says, “Do not apply directly to water,” that means...
Earwigs: The Good, The Bad, & The Ugly

I was working in my garden the other day when I heard a voice say to me, “Nobody likes me. Everybody hates me. Gonna go eat some aphids.”

I looked down to where I heard the voice coming from — and saw a little earwig looking up at me.

“You eat aphids??” I said.

“I do,” she replied. “And snail eggs, young slugs, nematodes, chinch bugs, and lots of other bothersome things. I also find decomposing vegetable material very delicious, so I help release these nutrients again for your plants.”

“Wow, earwig,” I said, “I had no idea you were so beneficial. Why do people dislike you so much?”

“Ah,” she said, “we have an image problem. People don’t like our pinchers, even though we really are no risk to humans.”

As she disappeared between the rocks, I wondered if I could believe her story. So I went inside and looked it up, and found that everything she said was true! Though not flashy like butterflies, earwigs are indeed largely beneficial insects. So, if they’re not really causing any damage, it can be valuable to just let them be.

However, there are times when earwigs can get in our way — for instance, when they munch plant leaves or seedlings in the garden.

If you suspect earwigs are eating your plants, the first step is to confirm that they are actually the cause. Go out at night with a flashlight and see if you can catch them in the act. Do you see many around your plants? Or do you see lots of slugs and snails, which can also eat plants?

If you identify earwigs as the cause of significant harm, there are two easy and non-toxic solutions:

■ **Remove their hiding places.** Earwigs love dark and moisture, so remove or reduce nearby ivy, weeds, leaves, mulch, and trash piles.

■ **Set traps.** One effective trap is a can with oil in it (like a tuna fish can). Other traps include a rolled-up newspaper, corrugated cardboard, a bamboo tube, or a short piece of hose. You can optionally add a little oil as bait. Set traps in your garden just before dark. In the morning, shake accumulated earwigs into a pail of soapy water.

For more information on earwig control, see UC’s Integrated Pest Management website [www.ipm.ucdavis.edu]. And check out Common-Sense Pest Control, available at the Sonoma County Library.

— Karen Froiland

### About the Author

The Next STEP (TNS) is published six times a year by the Sebastopol Toxics Education Program (STEP). STEP is a project of the City of Sebastopol, implemented by local citizen volunteers. STEP’s mission is to support city residents in reducing their toxic use and exposure, creating a healthier and safer Sebastopol for everyone.

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