

INSECT INSIGHTS

A Sustainable Approach to Pest Management

by Danae Wolfe

A new gardening season is upon us. And whether you're preparing for a native pollinator garden or a new vegetable bed, your excitement might be tempered by the thought of inevitable insect pests and having to reach for a chemical quick fix.

Pesticide use is one of the leading causes of insect decline globally. Studies estimate that homeowners apply more pesticides per hectare on their lawns and gardens than farmers use in agriculture. While these substances can provide an immediate solution for pest problems, they can also disrupt the natural balance of the garden and cause unintended consequences for non-target organisms. Thankfully, there's a more nature-friendly approach to managing pests in the home landscape.

INTEGRATED PEST MANAGEMENT

Integrated Pest Management, or IPM for short, is a holistic approach to managing pest problems in the garden that aims to minimize the use of synthetic pesticides. IPM involves a combination of pest prevention strategies that includes monitoring and identifying pests accurately before choosing the most effective and least harmful methods of control. Control can include a mix of cultural, biological, and mechanical practices as well as the conscientious use of pesticides only when necessary.

Cultural pest control means using a variety of garden practices that can help naturally reduce pest establishment, survival, or reproduction. For example, removing areas of standing water can prevent mosquito establishment. Properly siting and rotating crops can prevent the spread of disease like tomato blight. And sanitizing garden tools can prevent the spread of unwanted pests from one area of the garden to another.



Disfigured leaves are not always cause for concern. This redbud has provided nesting material to a leafcutter bee, an important native pollinator.

Biological pest control entails the use of other organisms to control pests. Predatory insects like lady beetles or lacewing larvae can help manage pests like aphids, mealybugs, and spider mites. Biological pest control is most effective when you can foster natural balance in the garden. For example, inviting predatory insects into the garden by providing habitat and food sources they need to thrive can help you naturally create harmony in your landscape and reduce the need of pesticides.

Mechanical pest control refers to the use of physical methods to thwart unwanted pests. A blast of water from a hose, for example, can temporarily remove—or sometimes kill—pests from plants. Simply knocking Japanese beetles into a jar of water mixed with dish soap is an effective way to decrease the number of these invasive

beetles from ravaging your roses (and just about everything else)! Exclusion fences and row covers can help prevent insects and other wildlife from feasting on your flower and food gardens.

Finally, **pesticides** should be used as a last resort and *only* when you're certain you have a pest problem that warrants it. Bear in mind that all pesticides—both chemical formulations and organic ones like horticultural oil and garlic sprays—may affect non-target insects.

GETTING STARTED WITH IPM

If getting started with IPM seems overwhelming, here's how I like to simplify the process.

First, **inspect**. Make a habit of scouting for pests in your garden on a regular basis. Consider keeping a journal of your observations. This written record can



Bird baths are perfect breeding grounds for mosquitos in the garden, but replacing water frequently or using baths with moving water can prevent these pests from reproducing.

help you identify temporary or isolated issues as opposed to ongoing issues that might need a bit of management.

If you **detect** an emerging issue in your landscape, take time to identify the root cause of the issue and research management and control recommendations.

Next, **connect**. When needed, consult with local experts who can help with pest identification and management

recommendations. Online communities like iNaturalist (www.inaturalist.org) or BugGuide (bugguide.net) are great resources that can help connect you to experts who can accurately identify insects and your local Extension agent can offer recommendations for control.

Finally, **correct**. Consider the best approach to manage the pest problem and **reflect** on whether biological, cul-



Mail-order lady beetles are often non-native species like the multi-colored Asian lady beetle. It's best to promote native species in the garden—like this streaked lady beetle (*Myzia pullata*), shown with aphids, one of its food sources—by creating a suitable habitat.

tural, or mechanical means to correct the issue can prevent the use of synthetic pesticides.

MAIL-ORDER PREDATORS

While some insects like lady beetles are known for their beneficial role in controlling garden pests such as aphids, purchasing insects for release in the garden is not always the best solution to a pest problem. In many cases, these commercially available species are not native to your area and may become problematic by outcompeting native fauna for resources. Also, you could literally see your investment fly away because newly released insects may not stick around long enough to control target pests in your garden.

“Adult insects disperse readily once released. This is especially true of lacewings and lady beetles. And, unless you’re using chemicals, these predators should already be present in your yard or garden,” says Eric Eaton, entomologist and lead author of the *Kaufman Field Guide to Insects of North America*. “The solution to any pest problem is rarely a product or service. Long-term solutions mean learning more about the problem, and then adjusting your mindset accordingly. Prevention, too, is far better than reacting to a situation that has gotten out of hand.”

It’s important to remember that not all imperfections in your garden are cause for concern. Sustainable landscape management encourages increased tolerance for a less-than-perfect yard and for plants with a few nibbles here and there. The round holes in your leaves provide nesting sites for leafcutter bees and the caterpillars you find munching on your vegetables provide vital nutrition for nesting birds and their offspring. So, embrace the trails and traces left behind by insects in your garden, and take pride in providing the creature comforts for your wild neighbors. ■

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