

What is IPM?

Integrated Pest Management (IPM) involves the use of environmentally sound and effective practices to keep pests from invading or damaging your home, garden, or landscape.

IPM usually combines several methods for long-term pest prevention and management to reduce harming you, your family, or the environment. Successful pest management begins with correctly identifying the pest and selecting the appropriate and most effective methods and materials.



CA Reynolds

Monitoring for pests using a hand lens.

Pest prevention and control around the home and landscape includes:

- Monitoring for the presence of pests and their damage
- Altering the home or garden environment to deprive pests of food, water, and shelter
- Keeping pests out by using barriers, screens, and caulk
- Planting pest-resistant or well-adapted plant varieties, such as native plants
- Discouraging various pests by modifying the way you design, irrigate, fertilize, and manage your garden
- Squashing, trapping, washing off, or pruning out pests
- Using mulch for weed control
- Encouraging beneficial insects to live in your garden

Biological control

Most gardens contain far more “good bugs,” or beneficial insects, than pest insects. Beneficial organisms (also called natural enemies) kill pests and play an important role in IPM. Help beneficials by choosing plants that provide pollen and nectar, keeping ants out of pest-infested plants, and avoiding the use of certain pesticides that kill or harm the good bugs.

For more information about managing pests, visit ipm.ucanr.edu or your local University of California Cooperative Extension office.

Learn about the adult and larval stages of common beneficials.

- Lady beetles (ladybugs): adults and larvae eat aphids.
- Lacewings: larvae feed on many insect pests; you’ll often see adults around lights.
- Syrphid flies: larvae eat aphids; adults resemble honey bees and hover around flowers.
- Parasitic mini-wasps: many species lay their eggs inside pests such as aphids or caterpillars; after hatching, the larvae consume the pest and kill it.
- Spiders: all spiders feed on insects and other arthropods.



Lady beetle adult



Lady beetle larva

Jack Kelly Clark

What about pesticides?

- Most pests can be managed without using pesticides.
- Use pesticides only if nonchemical controls are ineffective and monitoring confirms that pests are reaching intolerable or damaging levels.
- If pesticides are necessary, use them in combination with the nonchemical methods described above.
- Choose pesticides carefully. Use the least toxic, yet effective material that targets the pests but has little impact on human health and the environment.
- Examples of least toxic pesticides include:
 - Soaps and oils for soft-bodied insects like aphids
 - Microbials such as *Bacillus thuringiensis* (Bt) for caterpillars
 - Borate products in bait stations for ants
 - Dusts such as borate or silica in cracks or crevices for household pests

What you do in your home and landscape affects our water and health.

- Minimize the use of pesticides that pollute our waterways and harm human health.
- Use nonchemical alternatives or less toxic pesticide products whenever possible.
- Read product labels carefully and follow instructions on proper use, storage, and disposal.