

How to Handle Beneficial Bugs

If you order insect predators or parasites, be prepared to take action quickly when they arrive. They are living critters and can't be left in the package long. Keep these points in mind:

1. When the beneficial bugs are delivered-don't open the package! They may have escaped from the inner wrapping. If you open the container in your kitchen or living room, you may end up with a house full of bugs! Read the directions on the label for handling and releasing: Every species is unique and must be treated differently.
2. Release the friendly bugs in your garden as soon as you can after they arrive. Shipping and being confined in the packaging are stressful for the insects. Don't keep them in the packaging more than 24 hours.
3. If you can't release them in your garden right away, keep them cool. For most beneficials, the door of your refrigerator (where the temperature is about 45°F) is suitable, but a few need warmer storage. Follow storage directions printed on the packaging.
4. When you are ready to release the beneficials, take the package to the exact spot in your garden where you want to release them. Release some of the beneficials right on or near the infested plants and the rest as evenly as possible throughout the surrounding area.
5. Try to get a good look at the beneficials as you release them. You don't want to mistakenly kill them later on, thinking they may be pests. You can preserve a few for future reference by dropping them in a small vial of rubbing alcohol.
6. If you think the package is empty, don't panic. Look with your magnifying glass. Some beneficials, like predatory mites, are too small to see with the naked eye. Others may come mixed with a bran, sawdust, or vermiculite carrier. The easy-to-see carrier helps you know whether you're distributing the insects evenly.



Biological Controls and Care

What is a biological control?

This is a pest control method that uses living organisms to control plant pests by increasing the balance of beneficial insects in your garden and lawn.

What are the Benefits?

Biological controls may be the most important and efficient control methods you use in your garden. Encouraging native predatory and parasitic insects and mites ("beneficials") is cheap, simple and increases the bio-diversity on your very own property. If done properly, releasing an insect predator or parasite, or a disease organism can establish nearly permanent control.

Conserving and Attracting Natural Enemies

An important part of your organic insect control system is to encourage these natural enemies of pests to stay in your garden and do the pest control work for you. One of the best ways to encourage beneficial insects and mites is to do a little less garden work! A garden tilled from edge to edge every season, with weedless rows of orderly vegetables, is a relatively barren habitat for our good bugs, yet it gives pests a limited food supply.

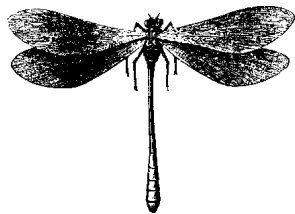
A garden planted in a mixture of vegetables, flowers, and herbs with weeds and wild flower patches scattered throughout, provides all sorts of protected and semi-permanent areas for a diverse community of beneficial insects. The more diverse, the more attractive our garden is for these bugs to naturally make their home in our gardens, plus it is a fantastic learning centre for you and your family! Your very own ecosystem!

Protecting Your Friendly Bugs!

The most obvious way to protect beneficial insects is to avoid using pesticides, toxic sprays and dusts. Even botanical poisons (which are considered acceptable for use in organic farming) kill many kinds of insects, harmful and beneficial. Use these substances, including nicotine, pyrethrin, rotenone, sabadilla dust, bacillus thuringiensis (Bt), and especially diatomaceous earth, with care and caution.

Dust

Dust is more harmful to beneficials than it is to pests, because pests get plenty of moisture from the plants they eat, while the beneficials are eating insects which are rather dry. Insects are constantly struggling to keep enough water in their bodies, because their bodies have so much surface area relative to volume. Dust from roads, or cultivation can scratch the protective coating on insect bodies, causing more rapid water loss. You can reduce dust in the garden or orchard, by planting a protective hedge, planting ground covers to hold the soil, or build a wind break fence; ie mini greenhouse, seed starter. Or you can water them. Build the bugs a swimming pool...



Water, Insect Bath

Bugs get water from their prey or plant sap, but mostly they rely on dew or raindrops.

You can make a simple “insect bath” for your garden from an old birdbath or just a shallow container like a plastic plant water tray. Fill the container to the top with rocks or large gravel to make dry islands where the insects can land. You can also float a piece of wood in a bucket of water, or a garden pond to make a central watering site for beneficial insects including honeybees that pollinate your crops, and of course, dragonflies.

Shelter

For beneficial insects, shelter is not just protection from wind and weather extremes, it is also shelter for their populations when a cultivated area is being disturbed by tilling, weeding or harvesting. Permanent stable zones, mean fewer disturbances for beneficial insects. Shelter is also another place to find food and variety. Hedgerows are one of the best shelters for beneficial species. Flowering shrubs and bushes with a mixture of flowering plants and weeds in an undisturbed, year-round hedge or border sustain many predators and parasites. Permanent pathways and borders around vegetable beds shelter the numerous beneficial ground beetles, rove beetles, and millipedes in your garden. These permanent patches give the soil dwellers hiding places and overwintering spots when the garden beds are bare and inhospitable. Stone mulched pathways, sod or clover, or thick mulches of organic materials or newspaper all give the ground-living predators a stable home.

Food

Entice adult biocontrols to stay around your garden by planting companion plants that are rich in pollen and nectar. The beneficials are attracted to the nectar plants, and while in the area, search for suitable hosts or prey for their offspring. Choose small-flowered species.

Some suggestions are:

Dill	Caraway	Fennel	Lovage
Parsley	Queen-Anne's Lace	Lambs quarters	Nettles
Wild mustard	Mint	Catnip	Hyssop
Lemon balm	Rosemary	Thyme	Echinacea or Cone flower
Daisies	Yarrow	Goldenrod	Calendula