Most of the time when people think of insects they think -PESTS. What a lot of people don’t know is that not all insects are pests. In fact, many of them can be used to our benefit. Beneficial insects pollinate our flowers, and some can be used to reduce the populations of insects that we do consider to be pests.

Beneficial insects can be used in your yard or garden to reduce populations of insects harmful to plants. For example, in an aphid infested flower or vegetable garden, assassin bugs, flower flies, lacewings, and lady beetles, if introduced can significantly reduce the population of aphids eliminating the need to use a chemical spray.

The effectiveness of controlling pests with beneficial insects can vary with the levels of pests present. When pest populations are high, and there is enough food along with the proper habitat to support the beneficials, they will feed and reproduce more, thus having a greater impact on the health of your yard or garden. On the other hand, when the pest populations are low, the beneficials will have less to eat, and unless alternative sources of food are provided, will leave to search elsewhere for food.

1. PROVIDE SHELTER
All living things need a stable habitat in order to stay healthy and happy. If care is taken to provide shelter where insects can find protection from disturbances, they will be more likely to stick around. Plots of cover crops, perennial flower beds, and hedgerows near flower or vegetable gardens all provide excellent shelter for your beneficial insects.

2. PROVIDE WATER
Insects, just like anything else need water to survive. Providing sources of water for your beneficial insects is a good way to keep them alive and happy. Any small, shallow container will work, but care should be taken to keep the water clean. Changing the water every 2-3 days will do this and will also discourage mosquitos from breeding. Small sticks or rocks should also be placed in the water to give the insects somewhere to perch.
3. PROVIDE ALTERNATIVE FOOD SOURCES
When pest populations are low, beneficial insects will feed on pollen, nectar or plant juices to supplement or replace their insect diet.

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<thead>
<tr>
<th>Pollen Producing</th>
<th>Nectar Producing</th>
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<tr>
<td>Snowdrop</td>
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<td>Crocus</td>
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<td>Red Maple</td>
<td>Dandelion</td>
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<td>Dandelion</td>
<td>Strawberry</td>
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<td>Apple</td>
<td>Grape Hyacinth</td>
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<td>Strawberry</td>
<td>Mustard</td>
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<td>Coltsfoot</td>
<td>Squash family</td>
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<td>Grape Hyacinth</td>
<td>Raspberry/Blackberry</td>
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<td>Mustard</td>
<td>Clover</td>
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<td>Squash family</td>
<td>Alfalfa</td>
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<tr>
<td>Raspberry/Blackberry</td>
<td>Queen Anne’s Lace</td>
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4. INCORPORATE OTHER PEST MANAGEMENT STRATEGIES
In order to sustain their food source, beneficial insects must allow some of their prey to feed and reproduce. As a result, they will not always be able to solve all of your pest problems. Therefore, other methods of pest management in conjunction with your beneficials may be a good idea. Choosing plants that are resistant to pests works well. Pesticides are also an option, but should be used sparingly as pesticides are harmful to the environment as well as to beneficial insects. Before using a pesticide, research should be done to uncover any adverse effects that these pesticides may have on anything that you don’t want harmed. Information on pesticides can be obtained through the use of gardening journals, library catalogs, and internet use.

ORDERING INSECTS FROM DISTRIBUTORS

Although it is very helpful to know how to identify and attract beneficial insects, sometimes it is much easier and more convenient to go to a distributor of beneficial insects and acquire a population of your own to release into your garden. After the insects have been ordered and released, you must keep them happy and satisfied with their new home so that they will want to stay and make a permanent home of your garden.

Following is a list of beneficial insect providers (these providers will package your insects and ship them to you):

**The Beneficial Insect Co.**
*Glendale, NC*
[www.thebeneficialinsectco.com](http://www.thebeneficialinsectco.com)

**Natural Pest Controls**
*Orangevale, CA*
[www.natpestco.com](http://www.natpestco.com)

**Buglogical Control Systems**
*Tucson, AZ*
[www.buglogical.com](http://www.buglogical.com)
**SOME COMMON TYPES OF BENEFICIAL INSECTS**

**Praying Mantids (Mantodea)**

Mantids are very efficient and deadly predators that capture and eat a wide variety of insects and other small prey. They have a neck that allows the head to rotate 180° while waiting for a meal to wander by. Camouflage coloration allows mantids to sit on twigs and stems while they wait. Pesticides drastically reduce the number of mantids in a given area. If you want to encourage mantids, you should use as few pesticides as possible, and allow some vegetation to grow to provide cover for them.

**Lady Beetles (Coleoptera, coccinellidae)**

Lady Beetles are the most commonly known of all beneficial insects. Both adults and larvae feed on many different soft bodied insects, but aphids are their main food source. Adult lady beetles are dome shaped, oval, or convex. They are often shiny with short legs and antennae. Wing covers are dark reddish-orange to pale yellow with or without black spots or irregular marks. The head is concealed from above. Growing pollen flowers (see chart on page 2) and allowing weeds (dandelion, wild carrot, and yarrow) to grow can attract lady beetles to your area. Wheat is a combination of whey and yeast that can be sprayed on plants to attract lady beetles (wheat is an artificial diet). This product can be ordered online through www.agrobiologicals.com. Protect egg clusters, larvae, and pupae on plants. To conserve lady beetles, use as few pesticides as possible.

**Assassin Bugs (Hemiptera, reduviidae)**

Assassin bugs are generalist predators that feed on a variety of insects. These predators are closely related to plant sucking bugs. They have an elongated body with grasping forelegs and a pronounced head. Adult insects are brown in color and reach a length of 5 to 6.5 inches. Assassin bugs feed on many different insects, but because they have sucking mouthparts, tend to feed on softer bodied prey such as caterpillars. These bugs can be attracted to the garden by a cover crop such as a border of alfalfa. Assassin bugs have a higher tolerance to insecticides and pesticides than do most other beneficial insects.
Ground Beetles
(Coleoptera, Carabidae)

Ground beetles eat soil dwelling pests, including slugs and snails. Sometimes they also feed on pests that are on plants. These beetles will seek cover in permanent pathways and perennial beds. The adult beetle ranges from 1/8 to 1 1/4 inches long. They are usually elongated, heavy bodied, and slightly or distinctly tapered at the head end. The ground beetle is generally dark, but can also be purple or metallic green or multi-colored.

Rove Beetle
(Coleoptera, Staphylinidae)

Rove beetles are important predators of maggots and mites. Most rove beetles are slender with a very slender and flexible abdomen. Adults less than long. (almost all are less long) are mostly nocturnal (meaning that they come out mostly at night). Providing a moist area especially with decaying plant or animal material can attract rove beetles. A good way to do this is to start a compost pile.

Lacewings
(Trichoptera)

Lacewings are green and brown with large eyes relative to their head. Adults are generally 1/2-3/4 inches long. These insects are generalist predators. They feed on aphids, mites, thrips, soft scales, and other soft-bodied prey. Adults are attracted by the odor of aphid honeydew and lay their eggs near aphid colonies.

For More Information about Beneficial Insects:

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