

ATTRACTING BENEFICIAL INSECTS into your garden starts from the ground up...the soil. The health of your garden soil works like a chain reaction that affects your whole garden environment. Whatever you add to your garden or lawn, you are at the same time feeding the millions of micro-organisms that create healthy soil. By adding compost and only organic amendments to the soil you encourage earthworms to move in. They in turn aerate and feed the soil, which helps your garden grow. Healthy soil equals healthy plants, which also contribute to less pests and disease. When you use synthetic chemicals, pesticides and fertilizers you are destroying the eco-balance of your garden. A garden that is overrun with problem bugs is a garden out of balance. To bring it back into harmony and balance requires attracting more beneficial insects that will eat those undesirable bugs. To keep an army of good bugs working in your yard, it is best to completely eliminate the use of pesticides. This also means using only organic and eco-friendly products.

Well, just who are those good bugs that we want in our garden? As protectors of our environment we should be able to identify at least some of these bugs that make our gardening job so much easier. Nature is filled with many beneficial insects, but I will start with the top five that you will definitely want to provide food and shelter for in your backyard with the correct plant choices.

2 The Larvae of the Ladybug can't fly, but they eat more pests than the adult ladybug. They are distinguishable by the orange and black stripes on their

3 The Adult Hoverfly, also called a syrphid fly, resembles a little bee. But they don't sting; they hover over and fly away quickly, feeding on aphids, mealybugs and other insects.

4 Parasitic Mini-Wasps do not sting humans. The stinger allows the female to lay her eggs in the bodies of insect pests. The young feed on the pests from the inside, leaving a hollow shell.

5 The Tachinid Fly feeds on the caterpillars of the corn earworm, cabbage worm, cabbage loopers, and cutworms. They also feed on stink bugs, squash bugs, beetle and fly larvae and many more.

To attract these, and many other species of beneficial insects, you will want to provide essential nectar and pollen. Research shows that a wide diversity of flowers sustains adult beneficial insects, allowing their populations to increase. There are many plants that attract favourable insects into the garden. It is best to choose the widest variety of plants that will bloom at different times throughout the season. These plants will develop the essential habitat required for beneficial insects to thrive.

The following are some of the best plants every gardener should have to provide the widest selection of natural insect control.

Alyssum saxatillis, commonly called Basket of Gold, is one of the earliest spring blooming perennials to attract beneficial insects into your garden. This is important, because in early spring the undesirable insects enter the garden long before the good bugs. This low growing ground cover has fine, silvery leaves that are covered in masses of yellow blooms.

Penstemon strictus, or Rocky Mountain Penstemon, is a late spring bloomer that will bring the ladybugs in to devour those nasty pests. It grows to a height of thirty inches with purple trumpet shaped blooms.

Creeping thyme (Thymus serpyllum) makes a beautiful, walkable ground cover that can be used between stones in walkways. This early summer blooming perennial also looks great on a hillside. The mid-season blooming Veronica spicata (Speedwell) makes a great addition to the perennial border with its dark blue flower spikes. It grows to a height of twenty inches.

The drought tolerant, late-summer blooming Achillea filipendulina (Fern-leaf Yarrow) attracts many different beneficial insects. This tall perennial has large flat yellow blooms that reach a height of three to four feet.

Helianthus maximiliani (Prairie sunflower) is an outstanding native perennial for late summer with bright yellow blooms, growing to a height of six to eight feet. It attracts many different beneficial insects, birds and butterflies.

Anthemis tinctoria (Golden marguerite) is covered in masses of small, yellow daisy-like blooms most of the summer. This perennial attracts a large assortment of beneficial insects.

Limonium latifolium (Statice, "Sea Lavender") is a late summer, long blooming, drought tolerant perennial that adds a unique texture to the garden. It also makes a wonderful cut or dried

Shasta daisies attract so many beneficial insects that they are among the best garden performers for both flower power and insect control. Shasta daisies will attract bugs that eat thrips, aphids, mites, scales, fungus gnats and whiteflies.

Lavender is a mid-summer bloomer that provides the required nectar and pollen for many advantageous insects to enter your

The late summer blooming annual Verbena Bonariensis adds a wash of purple with its airy thirty-six inch high blooms. It gently sways in the summer breeze above other plants.

Purple poppy mallow (Callirhoe involucrata) produces a non-stop show of magenta violet blooms from June until frost. It has a trailing habit and is a wonderful addition to the front border or in containers because it grows to a height of only twelve inches. It is a rare native plant that is wonderful to include in your garden for many reasons.

Queen Anne's Lace (Daucus carota) attracts almost every kind of beneficial insect. To keep this annual under control, cut off the blooms just before it goes to seed. Its job as a garden protector is immeasurable. Next time you may want to reconsider pulling this plant out!

Our native Goldenrod (Solidago) is a very valuable garden protector plant that attracts a wide assortment of good bugs. The "Little Lemon" hybrid is a very well behaved variety of goldenrod, which



makes it a great choice for a perennial garden.

The annual, Cosmos, attracts a long list of beneficial insects and this plant fills the empty spaces in the perennial garden so beautifully. Cosmos attracts bugs that eat moth, beetle and fly larvae and many

Peonies attract the spring tiphia wasp that dines on grubs.

Plant the annual Amaranthus to attract ground beetles that eat slugs, small caterpillars and grubs. Ground beetles also eat cutworms and snails and are attracted by clover. I throw some white clover seeds on our lawn each year.

Sage also repels slugs, along with bean beetles, cabbage moths and the carrot fly. An organic way to get your slug and snail situation under control, before the plants you require are established, is to sprinkle "Diatomaceous Earth" at the base of the plants that have the most damage.

The perennial Rudebeckia fulgida or Black Eyed Susan will attract predatory insects that dine on aphids, mealybugs and many others. Lupins and Sunflowers will attract bugs that eat aphids and mealybugs.

Astrantia major (Masterwort) attracts bugs that eat whiteflies, aphids, mealybugs, and moth, beetle and fly larvae

The silver foliaged Artemesia (Wormwood) will add a unique texture to the garden and will also repel snails, slugs, black flea beetles, fleas, cabbage and fruit tree moths. Artemesia looks great when planted with stonecrop sedums, which are also very good garden protector plants.

Candytuft (Iberis) has small, pure white flowers in the spring. Plant in full sun and shear the plants after they have finished blooming to keep them compact.

**Aster alpinus (Dwarf alpine aster)** is a late spring bloomer that only grows eight inches high with pink or lilac coloured, daisy-like blooms.

Many herbs and plants also have insect and pest repelling properties. The late spring blooming Painted Daisy produces pyrethrin, which is a natural source of insect repellent. This compound acts directly on the nervous systems of leafhoppers, cabbage worms and other insects and will not harm mammals and other plants. This is an old-fashioned heirloom perennial that bridges the gap from spring to summer and is an essential garden protector.

There are many beautiful varieties of Alliums that attract good parasitic wasps. These wasps do not bite humans. Garlic is a member of the Allium family. I would highly recommend planting garlic cloves throughout your vegetable and perennial gardens. This is one of the best garden protector plants. At some time, we have all had to deal with the iris borer in our iris garden. When this happens you have to throw away the infested root. To protect your irises from future iris borer invasions, plant a few garlic cloves near them. Garlic repels borers, aphids, gophers, Japanese beetles, mites and rabbits. Try also adding some garlic or feverfew

FIG. 2 Ladybug Larvae



plants among your roses to repel aphids and other pests. Feverfew (Chrysanthemum parthenium) attracts the beneficial hover fly.

Dill, fennel and pennyroyal are three of the best herbs for attracting the widest variety of beneficial insects. The following annual and perennial herbs will also attract many predatory insects: parsley, sage, basil, lemon balm, caraway, coriander, bergamot, garlic, chives, calendula, rosemary, oregano, cilantro, caraway, catnip and thyme.

When you are planting your vegetable or perennial garden this spring, consider adding some herbs as "companion plants" to protect your harvest. "Companion planting" is similar to choosing plants that attract beneficial insects in that companion plants protect, and deter undesirable pests and insects. Many companion herbs are annuals (A) that have to be replanted every year.

**Nasturtium** (A) repels cucumber and squash beetles, whiteflies, striped pumpkin beetles and wooly aphids (apple).

The perennial Tansy (Tanacetum officinale), repels ants, aphids, borers, Colorado potato beetles, cucumber beetles, cutworms and the squash beetle. Tansy also attracts beneficial ladybugs, parasitic mini-wasps, lacewings and tachinid flies.

The annual herb **borage** (A) will completely deter the tomato hornworm from your tomato patch. This plant is totally edible, right down to the tiny blue flowers. I usually plant borage and basil together with my tomatoes. It works every time.

French marigold (A) repels the aphid, Colorado potato beetle, whitefly, cabbage maggot, cabbage moth and flea beetle. It also attracts many beneficial insects and it blooms all summer long in a variety of colours. Only the French marigolds have insecticidal abilities.

Mint repels ants, carrot flies, aphids, cabbage moths, fleas and mice. Even with all of its great benefits, you should beware that mint should be kept in a container or within a barrier in the garden so that it doesn't take over with a vengeance.

Not only does giant blue hyssop have beautiful blooms that attract butterflies, but hyssop also repels the cabbage moth.

The herb Calendula (A) repels asparagus beetles.

By adding a combination of these plants to your existing perennial and vegetable gardens, you will begin to create the essential habitat for beneficial insects to thrive. Attracting good bugs into your garden should be thought of as a cumulative benefit. The results are not an "instant fix" to the problem. However, as your plants mature, more and more beneficial insects will become established, thereby eliminating the need for insecticides. This will provide a long-term solution that will create balance and harmony in your garden and save you money in the long run.

For help with all your organic gardening needs, you can reach Lorraine Roberts at Plant Paradise Country Gardens 905-880-9090, www.plantparadise.ca Lorraine and her husband, Robb, own and operate Plant Paradise Country Gardens, an organic perennial nursery & garden centre, located at 16258 Humber Station Road in Albion and open to the public Wednesday – Sunday from 9:00am – 6:00pm.

FIG. 3 Adult Hoverfly



## Banish pests with the right plants

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|--------|---------------------------------------|---------------|----------------------|----------------------|------------|--------------|-------|--------------|--------------------|-------|------|-------|--|---------------------|--------------------|--|------------|------------------------|--|--------|--|-----------|-------------------------------|----------------------|----------------------|--|---------------------------------------|---------------------------------|---|---------------------|--------------------|---|--------|-----------------------|-------------------------------|------------------|--|--------------------|---------------------|---------------------------------|----------------------------|
|        | To get rid of these naturally attract |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     | attract these      | by planting these in your garden       |            |                        |  |        |  |           |                               |                      |                      |  |                                       | your                            | hy /  |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
|        | PEST INSECTS BEI                      |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     | BENEFICIAL INSECTS | PLANTS THAT ATTRACT BENEFICIAL INSECTS |            |                        |  |        |  |           |                               |                      |                      |  | ga                                    |                                 |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
| aphids | beetle                                | cabbage worms | caterpillars (large) | caterpillars (small) | fly larvae | fungus gnats | grubs | leaf hoppers | mealybugs & others | mites | moth | scale | slugs  | soft-bodied insects | spider mites       | thrips                                 | whiteflies |                        | Achillea filipendulina<br>(Fern-leaf Yarrow) | Allium | Alyssum (Basket of Gold) Amaranthus (Annual) | Artemesia | Aster alpinus Cosmos (Annual) | Digitalis (Foxglove) | Dill (annual) Fennel | Feverfew<br>(Chrysanthemum parthenium) | Forsythia<br>French Marigold (Annual) | Golden Marguerite<br>(Anthemis) | Goldenrod (Solidago) Helianthus maximiliani | (Prairie Sunflower) | lberis (Candytuft) | Lavender<br>Limonium latifolium<br>(Statice "Sea Lavender") | Lupins | Masterwort<br>Parsley | Pennyroyal Penstemon strictus | Peonies Strictus | Purple Poppy Mallow<br>Queen Anne's Lace | Rudebeckia fulgida | Sage (Salvia) Sedum | Shasta Daisy Sunflower (Annual) | Tansy<br>Thyme<br>Veronica |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  |            | aphidius & aphidoletes |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  |            | beneficial<br>mites    |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  |            | big eyed bugs          |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  |            | damsel bugs            |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  | •          | dicyphus               |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  |            | ground beetles         |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  |            | hoverflies             |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  |            | lacewings              |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
| •      |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  |            | ladybugs               |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  | -  |                    |                     |                                 |                            |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  | •          | parasitic wasps        |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  | -  |                    |                     |                                 |                            |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  | •          | pirate bugs            |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  |            | spring tiphia<br>wasp  |  |        |  |           |                               |                      |                      |  |                                       |                                 |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |
|        |                                       |               |                      |                      |            |              |       |              |                    |       |      |       |  |                     |                    |  |            | tachinid flies         |  |        |  |           |                               |                      |                      |  |                                       | -                               |   |                     |                    |   |        |                       |                               |                  |  |                    |                     |                                 |                            |

Use this table to determine which plants you require to maximize natural pest control. Use the yellow columns to determine the dietary requirements of the beneficial insects (blue column). Then use the green columns to determine the plants that will attract the beneficial insects you require.

Remember, combining five or more varieties of different plants will provide the required essentials to attract the greatest number of beneficial insects.



Use this