

Beneficial Insects

Did you know that over 95% of the insects aren't pests? Some insects help pollinate fruits and vegetables while others take care of common garden pests. By limiting pesticide use in your yard and by providing the right type of plants, you can encourage beneficial insects to inhabit your backyard habitat which will reduce your need for pesticides.

Steps for Encouraging Beneficial Insects

1. Design your garden or backyard to have blooming plants throughout the spring, summer and fall to provide nectar and pollen.
2. Provide a water source.
3. Provide shelter such as leaf litter on the ground or groundcovers.
4. Have patience and tolerate a few pests until beneficial insects establish.
5. Identify pest problems before treating and choose treatments according to the pest.
6. If not enough beneficial insects establish in your backyard, then purchase them from a local nursery or commercial insectary.
7. Resist the urge to spray when you first see damage, and if spraying is necessary, consider using safer pesticides.



Halictid bee pollinating a flower

Least Toxic Pest Products

Problem	Active Ingredient
Aphids	Ladybugs
Caterpillars	<i>Bacillus thuringiensis var. kurstaki</i>
Fungal Problems	Copper octonate
	Extract of Neem oil
	Potassium bicarbonate (85%)
	Sulfur
General Insect Pests	Capsaicin and related capsaicinoids
	Extract of Neem oil
	Fatty Acid Soap
	Potassium salts of fatty acids
Lawn Pests (Grubs and Fleas)	Cedar oil (2%)
	<i>Steinernema carpocapsae</i> (Nematodes)
Mosquito Larvae	<i>Bacillus thuringiensis var. israeliensis</i> (10%)
Snails and Slugs	Iron phosphate (1%)



Note: While products like pyrethrum and rotenone are naturally-derived, they are broad spectrum insecticides which can kill both pests and beneficial insects. Therefore, it is best to use narrow spectrum insecticides when possible.

Common Beneficial Insects

Insect	Food	Attractants
Assassin Bug	Beetles, caterpillars, other bugs	Sunflowers
Damsel Bugs	Caterpillar eggs, fleahoppers, leafhoppers and spider mites	Clover
Damselflies & Dragonflies	Mosquitoes, gnats and flying insects	Ponds, streams, open water and open fields
Ground Beetles	Snails, slugs and root-feeding insects	Stone pathways, clover & compost piles
Honey Bees	Pollen and flower nectar	Flowers including asters & goldenrods
Lacewings	Aphids, small caterpillars, whiteflies and thrips	Nectar plants including geraniums
Lady Bugs	Aphids, scales, mites and soft-bodied pests	Nectar plants including geraniums
Praying Mantis	Other insects	Flower & vegetable gardens
Predatory Flies	Caterpillars, beetle larvae and sawflies	Nectar plants
Predatory Wasps	Other insects	Pollen producing plants like fennel
Spiders	Other insects	Flower & vegetable gardens
Syrphid Flies	Aphids, beetles, caterpillars and thrips	Composites like dill, fennel and coreopsis
Wheel Bugs	Caterpillars, moths, squash bugs, cucumber beetles	Shrubs and trees



Assassin Bug (juvenile)



Predatory Fly (Robber fly)



Predatory Wasp (Pelecinid wasp)

Note: While many stores sell beneficial insects, it is best to attempt to attract your own. Sometimes, these insects are not sustainably collected from the wild, or those that are mass reared may have diseases that could be accidentally introduced into wild populations.

Perennial Plants that Attract Beneficial Insects

Many wasps and other natural enemies of insects rely on plant nectar or pollen as adults and invertebrates as juveniles. Therefore, planting flowers that attract adult predators and parasitoids can increase natural pest control in your backyard. Predators are animals that attack and consume other animals whereas parasitoids live in or on their host and kill the host in the process. Most parasitoids are specialists and only attack certain species. For example, a common parasitoid is the braconid wasp (*Cotesia congregatus*) which lays its eggs inside of tobacco and tomato hornworms.

Common Name	Scientific Name	Bloom Time	Notes
Golden Alexanders	<i>Zizia aurea</i>	April-June	Host plant for black swallowtail
Canada Anemone	<i>Anemone canadensis</i>	May-July	Likes moist soil
Dill	<i>Anethum graveolens</i>	May-June	Attracts green lacewings, syrphid flies, and ladybugs; host plant for black swallowtail
Lanceleaf Tickseed	<i>Coreopsis lanceolata</i>	June-October	Great bee and butterfly nectar plant
Indian Hemp	<i>Apocynum cannabinum</i>	June-August	Nectar source for monarchs
Meadowsweet	<i>Spiraea alba</i>	June-September	Grows best in western Maryland
Spotted Beebalm	<i>Monarda punctata</i>	June-October	Attracts wasps
Wild Bergamot	<i>Monarda fistulosa</i>	June-September	Attracts wasps
Canada goldenrod	<i>Solidago canadensis</i>	July-October	Great nectar source for migrating monarchs; attracts beetles and wasps
Boneset	<i>Eupatorium perfoliatum</i>	July-October	Great for bees and butterflies
Blue Lobelia	<i>Lobelia siphilitica</i>	August-October	Likes moist soil
New England Aster	<i>Symphotrichum novae-angliae</i>	August-October	Great nectar source for migrating monarchs

When planting, it is best to either interplant the species listed above within your garden design or to create small borders around your garden. These flowers can be used in all types of gardens from edible gardens to pollinator gardens.

Resources:

Fiedler, A., Tuell, J., Isaacs, R., and D. Landis. 2007. [Attracting beneficial insects with native flowering plants](#). Extension Bulletin E-2973.

Xerces Society. 2014. Farming with Native Beneficial Insects: Ecological Pest Control Solutions. ISBN-13: 978-1612122830

For more information on Maryland's Wild Acres, then visit the website:

<http://dnr.maryland.gov/wildlife/Pages/habitat/wildacres.aspx>



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