

BENEFICIAL INSECTS

Plants and the beneficial insects they attract!

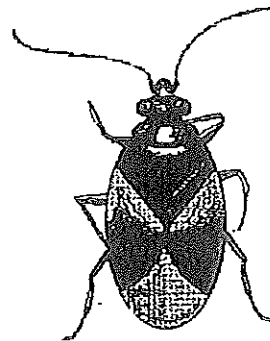
Providing plants that attract beneficial insects can reduce your need for pesticides. And let's face it, the day will come when the government will not allow us to use pesticides. Besides, Mother Nature did have a plan when she created the grand scheme of things. The natural balance has been disturbed by modern day farming and gardening practices. You can recreate a natural balance on your property by learning which insects to invite to your land to do their job. Several bugs are predators or parasites to many garden pests. As you read this fact sheet, you will learn that insects eat insects or lay eggs on or inside other insects. After the egg hatches, the larva voraciously consume its prey. Later the larva develops into an adult.

As with all creatures, beneficial insects need food, water, and cover. Ferns and evergreens provide shelter and egg laying opportunities for insects. Dense, low growing plants like rosemary and creeping thyme provide dark, cool, moist spots that attract spiders and ground beetles. Plants in the carrot, mustard, mint, and daisy families will attract pollinators like bees and butterflies. Special care should be taken to provide the best habitat for the beneficial insects you wish to attract. Some insects, such as parasitic wasps, are tiny and could drown in the nectar of a large flower. Therefore, plants with small flowers, such as Queen Anne's lace, dill, and anise can be planted to attract large quantities of small beneficials. Other flowering nectar and pollen producing plants include daisy, goldenrod, chamomile, spearmint, peppermint, catnip, savory, lavender, hyssop, basil, and oregano.

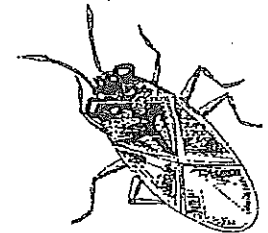
These nectar and pollen producers are important. Hopefully these plants will attract beneficial insects to an area before pests become a problem, so they will be ready for a pest invasion, should it occur. Also, once pests have been eaten, pollen and nectar producing plants will provide the necessary food to keep beneficial insects in your garden. Without this varied food source, beneficial insects may lay fewer eggs or leave your garden all together. Select plants so that

something will be flowering most of the year, to provide a supply of nectar and pollen for beneficials.

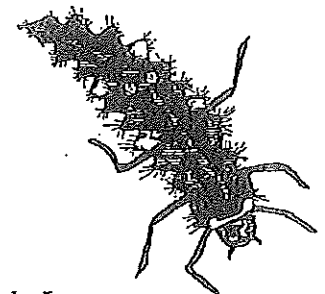
Descriptions to help you identify some of the beneficial insects you will find in your garden are as follows: Hover flies (Syrphids) look just like houseflies, but are brightly colored. Lady beetle larva are black with a few red spots (pictured below). Green lacewing larva look similar to lady beetle larva, but are cream-colored with brown spots. Their larva parasitize aphids and soft-bodied pests. Below are a few drawings of beneficial insects you may see in your garden. The charts found within this fact sheet will tell you which plants attract which beneficial insects. The last pages will give you detailed cross reference of the predators, the plants that attract them, and identify their prey.



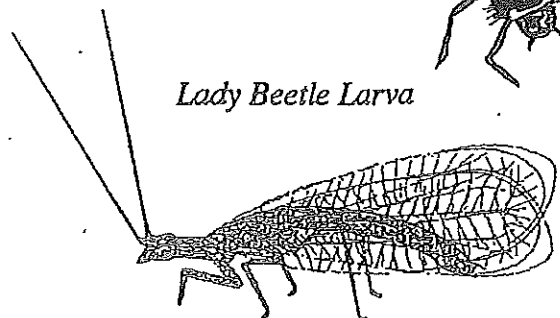
Minute Pirate Bug



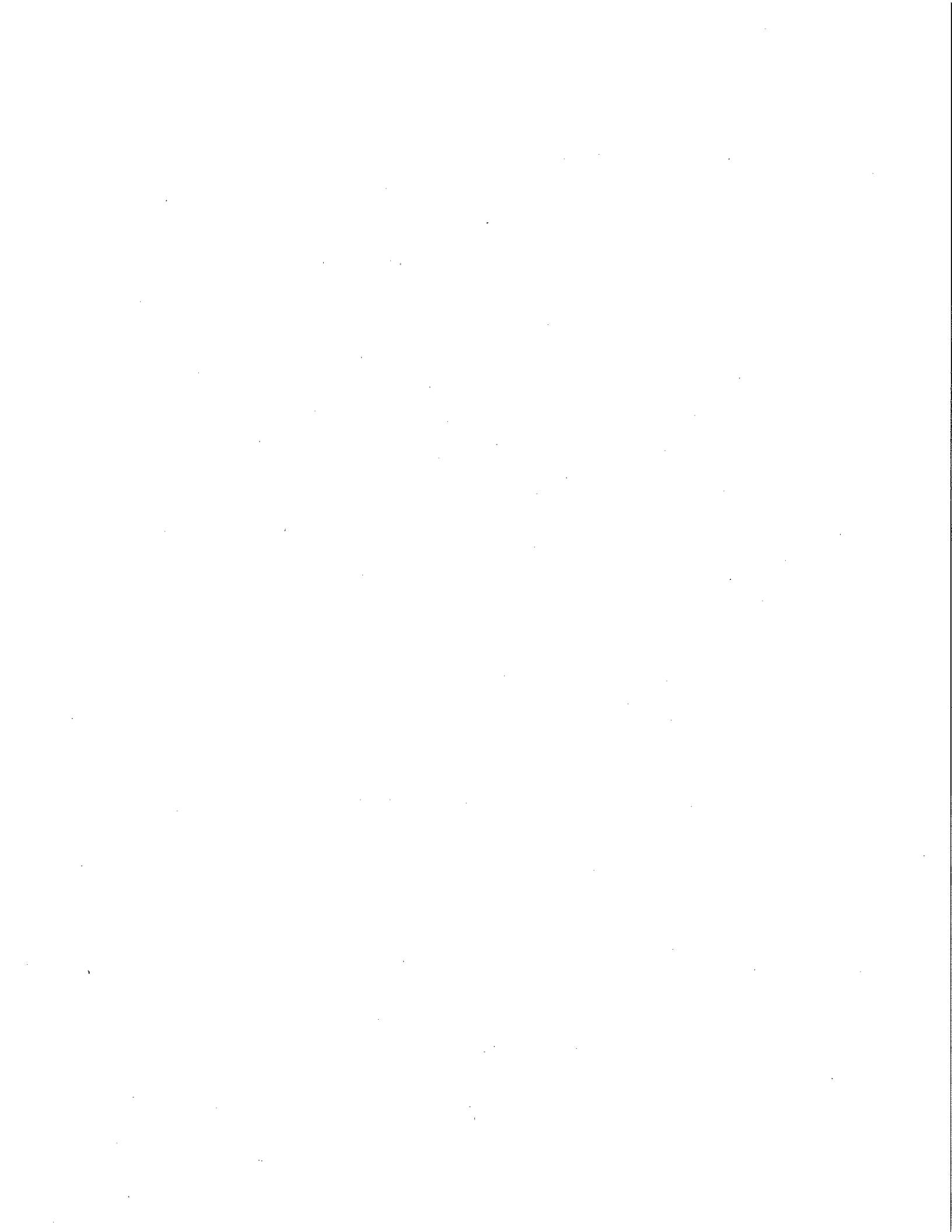
Big-eyed Bug



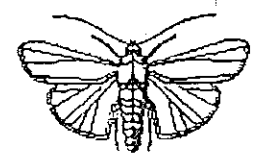
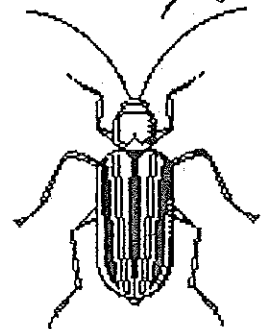
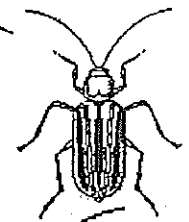
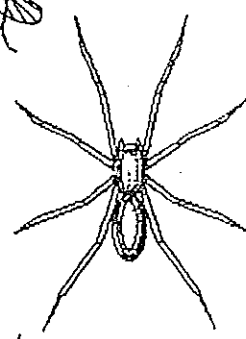
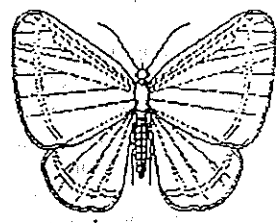
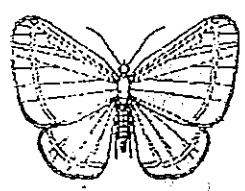
Lady Beetle Larva



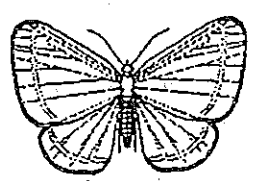
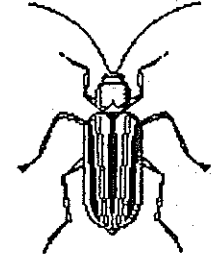
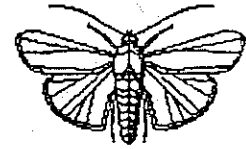
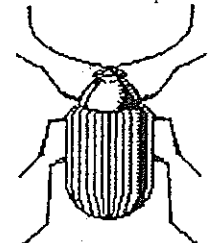
Lacewing



Botanical Name Common Name	Aphid Predators	Bigeyed Bugs	Brown Lacewing Larva	Green Lacewing Larva	Ground Beetle	Hover Fly Larva	Ichneumonid Wasp	Lady Beetles	Minute Pirate Bug	Parasitic Wasp	Preying Mantis	Social Wasp	Softwinged Flower Be	Solitary Wasp	Spiders	Tachinid Flies
<i>Achillea</i> species Yarrow	X					X		X	X	X						X
<i>Ammi visnaga</i> Toothpick ammi	X					X			X	X		X	X	X		
<i>Anethum graveolens</i> Dill	X															
<i>Asclepias fasciculans</i> Narrowleaf Milkweed	X					X										
<i>Asclepias tuberosa</i> Butterfly Weed	X							X								
<i>Aster</i> species Aster							X									
<i>Atriplex</i> species Saltbush, Quailbush	X							X								
<i>Baccharis pilularis</i> Coyote Brush	X					X			X							
<i>Brachychiton populneum</i> Bottle Tree	X			X												X
Bunch grasses	X							X								
<i>Ceanothus</i> species Ceanothus species	X					X		X								
<i>Carum carvi</i> Caraway										X						
<i>Coreopsis</i> species No Common Name	X			X		X										
<i>Cosmos</i> species No Common Name	X					X					X					
<i>Daucus carota</i> var. <i>carota</i> Queen-Anne's-lace	X					X		X	X	X						
<i>Erogonum</i> species Wild Buckwheat	X					X										X
<i>Euonymus</i> species No Common Name	X							X								
<i>Fagopyrum esculentum</i> Buckwheat	X					X			X			X	X			X
<i>Foeniculum vulgare</i> Fennel	X					X				X		X	X			X
<i>Hedera</i> species Ivies	X					X										X



Botanical Name Common Name	Aphid Predators	Bigeyed Bugs	Brown Lacewing Larva	Green Lacewing Larva	Ground Beetle	Hover Fly Larva	Ichneumonid Wasp	Lady Beetles	Minute Pirate Bug	Parasitic Wasp	Preying Mantis	Social Wasp	Softwinged Flower Fly	Solitary Wasp	Spiders	Tachinid Flies
<i>Helianthus annuus</i> Sunflower	X		X	X						X						
<i>Heteromeles arbutifolia</i> Toyon																X
<i>Mellilotus alba</i> White Sweetclover												X		X		
<i>Myoporum</i> species No Common Name										X		X		X		X
<i>Mentha spicata</i> Flowering spearmint	X					X						X		X		
<i>Polygonum aviculare</i> Common Knotweed	X	X				X				X		X	X	X		
<i>Prunus ilicifolia</i> Hollyleaf Cherry	X		X	X		X										
<i>Quillaja saponaria</i> Soapbark Tree	X		X	X		X										
<i>Robinia pseudoacacia</i> Black Locust	X							X								
<i>Rubus vitifolius</i> Grapes	X									X						
<i>Salix</i> species Willow species	X							X								
<i>Sambucus caerulea</i> Blue Elderberry									X							
<i>Tanacetum vulgare</i> Tansy (poisonous)	X							X								
<i>Tagetes</i> species Marigolds	X					X										
<i>Trifolium alexandrinum</i> Berseem Clover		X														
<i>Trifolium subterraneum</i> Subterranean clover		X														
<i>Trifolium repens</i> White clover	X				X	X									X	
<i>Vicia villosa</i> Hairy Vetch	X							X	X							
<i>Vigna unguiculata</i> sp. <i>unguiculata</i> Cowpea												X		X		



Botanical Name Common Name	Annual or Perennial Weed*	Beneficials attracted	Pests (prey of beneficial)
Achillea species Yarrow	P	Hover fly larvae Lady beetles Parasitic wasps Minute pirate bugs. Tachinid flies	important predator of aphids aphids, scale & other soft-bodied insects insects corn earworm, thrips, & spider mites parasitize stink bugs, squash bugs, caterpillar of various moths & butterflies
Ammi visnaga Toothpick ammi	A W	Minute pirate bugs. Softwinged Flower Beetle Hover fly larvae. Paper wasps & yellowjackets (social wasps) Sphecidae (solitary) wasps Parasitic wasps	corn earworm, thrips, & spider mites many pests important predator of aphids many caterpillar species wide range of insects, caterpillars, crickets, & weevils insects
Anethum graveolens Dill	A	Aphid predators	aphids, scale & other soft-bodied insects
Asclepias fasciculans Narrowleaf Milkweed	A	Hover fly larva	important predator of aphids
Asclepias tuberosa Butterfly Weed	P	Lady beetles	aphids, scale & other soft-bodied insects
Aster species Aster	P	Ichneumonid wasps	parasite to larval pests & many insect pests
Atriplex species Saltbush, Quailbush	P	Attracts Aphids which attract Lady beetles	
Baccharis pilularis Coyote Brush	P	Hover fly larvae. Minute pirate bugs.	important predator of aphids corn earworm, thrips, & spider mites
Brachychiton populneum Bottle Tree	P	Green lacewing larva Tachinid fly	aphids and other soft-bodied insects stink bug, squash bugs, & caterpillar of various moths and butterflies
Bunch grasses	P	Lady Beetles	aphids, scale & other soft-bodied insects
Ceanothus species No Common Name	P	Hover fly larvae. Lady Beetles	important predator of aphids aphids, scale & other soft-bodied insects
Carum carvi Caraway	A	Parasitic wasps	many pests
Coreopsis species No Common Name	A	Green lacewing adults Hover fly larvae.	aphids and other soft-bodied insects important predator of aphids
Cosmos species No Common Name	A	Preying Mantis Hover fly larvae.	important predator of aphids

*Weeds are defined as a plant out of place; therefore, some of these plants may be undesirable to you.

Botanical Name Common Name	Annual or Perennial Weed*	Beneficials attracted	Pests (prey of beneficial)
<i>Daucus carota</i> var. <i>carota</i> Queen-Anne's-lace	A W	Many parasitic wasps Hover fly larvae	important predator of aphids Lady beetles aphids and other soft-bodied insects Minute pirate bugs corn earworm, thrips, & spider mites
<i>Eragrostis</i> species Wild Buckwheat	A	Hover fly larvae Tachinid fly (parasite)	important predator of aphids stink bug, squash bugs, & caterpillar of various moths and butterflies
<i>Euonymus</i> species No Common Name	P	Lady beetle	aphids, scale & other soft-bodied insects
<i>Fagopyrum esculentum</i> Buckwheat	A W	Minute pirate bugs Hover fly larvae Tachinid fly (parasite) Paper wasps & yellowjackets (social wasps) Sphecidae (solitary) wasps	corn earworm, thrips, & spider mites important predator of aphids stink bug, squash bugs, & caterpillar of various moths and butterflies many caterpillar species wide range of insects, caterpillars, crickets, & weevils
<i>Foeniculum vulgare</i> Fennel	A W	Hover fly larvae Paper wasps & yellowjackets (social wasps) Sphecidae (solitary) wasps Tachinid fly (parasite) Parasitic wasps	important predator of aphids many caterpillar species wide range of insects, caterpillars, crickets, & weevils stink bug, squash bugs, & caterpillar of various moths and butterflies many pests
<i>Hedera</i> species Ivies	P	Hover fly larvae Tachinid flies	important predator of aphids
<i>Helianthus annuus</i> Sunflower	A	Lacewings Parasitic wasps	aphids and other soft-bodied insects many pests
<i>Heteromeles arbutifolia</i> Toyon	P	Tachinid fly	stink bug, squash bugs, & caterpillar of various moths and butterflies
<i>Melilotus alba</i> White Sweetclover	A	Paper wasps & yellowjackets (social wasps) Sphecidae (solitary) wasps	many caterpillar species wide range of insects, caterpillars, crickets, & weevils
<i>Myoporum</i> species No Common Name	P	Tachinid fly Parasitic wasps Predatory (social & solitary) wasps	stink bug, squash bugs, & caterpillar of various moths and butterflies many pests
<i>Mentha spicata</i> Flowering spearmint	P	Paper wasps & yellowjackets (social wasps) Sphecidae (solitary) wasps Hover fly	many caterpillar species wide range of insects, caterpillars, crickets, & weevils aphids, scale & other soft-bodied insects

*Weeds are defined as a plant out of place; therefore, some of these plants may be undesirable to you.

Botanical Name Common Name	Annual or Perennial Weed*	Beneficials attracted	Pests (prey of beneficial)
<i>Polygonum aviculare</i> Common Knotweed	W	Bigeyed Bugs Softwinged Flower Beetle Hover fly larvae Paper wasps & yellowjackets (social wasps) Sphecidae (solitary) wasps Parasitic wasps	wide range of insects, mites, & insect eggs many pests important predator of aphids many caterpillar species wide range of insects, caterpillars, crickets, & weevils aphids and other soft-bodied insects
<i>Prunus ilicifolia</i> Hollyleaf Cherry	P	Hover fly larvae Lacewings larva	important predator of aphids aphids and other insects
<i>Quillaja saponaria</i> Soapbark Tree	P	Green Lacewing larva Brown Lacewing larva Hover fly larvae	aphids and other insects artichoke plume moth important predator of aphids
<i>Rhobinia pseudoacacia</i> Black Locust	P	Attracts Aphids which attract Lady beetles	
<i>Rubus vitifolius</i> Grapes	P	Anagrus wasps (parasite)	leafhopper eggs
<i>Salix</i> species Willow species	P	Lady beetle larva & adults	aphids, scale & other soft-bodied insects
<i>Sambucus caerulea</i> Blue Elderberry	P	Minute pirate bugs	corn earworm, thrips, & spider mites
<i>Tanacetum vulgare</i> Tansy (poisonous)	P	Lady beetles	aphids, scale & other soft-bodied insects
<i>Tagetes</i> species Marigolds	A	Hover fly larvae	important predator of aphids
<i>Trifolium alexandrium</i> Berseem Clover	A	Bigeyed Bugs	wide range of insects and mites
<i>Trifolium subterraneum</i> Subterranean clover	A	Bigeyed Bugs	wide range of insects and mites
<i>Trifolium repens</i> White clover	A	Hover fly larvae Parasites of aphids Ground beetles Spiders	important predator of aphids many soil dwelling insects, cutworms, root maggots many insects
<i>Vicia villosa</i> Hairy Vetch	A	Minute pirate bugs Lady Beetles	corn earworm, thrips, & spider mites aphids, scale & other soft-bodied insects
<i>Vigna unguiculata</i> sp. unguiculata Cowpea	A	Paper wasps & yellowjackets (social wasps) Sphecidae (solitary) wasps	many caterpillar species wide range of insects, caterpillars, crickets, & weevils

*Weeds are defined as a plant out of place; therefore, some of these plants may be undesirable to you.

References

RESEARCH PAPERS

Bugg, Robert L. "Farmscaping with Insectary Plants." Sustainable Agriculture Research and Education Program
University of California Davis Information Analyst. Davis, CA (p. 1)

BOOKS

Carr, Anna, et. al. "Rodale's Chemical-free Yard & Garden." Rodale Press, Emmaus, Pennsylvania. 1991.
Carr, Anna, et. al. "Rodale's Illustrated Encyclopedia of Herbs." Rodale Press, Emmaus, Pennsylvania. 1987.
Comstock, Anna Botsford. "Handbook of Nature Study." Comstock Publishing Co. Ithaca, N.Y. 1911.

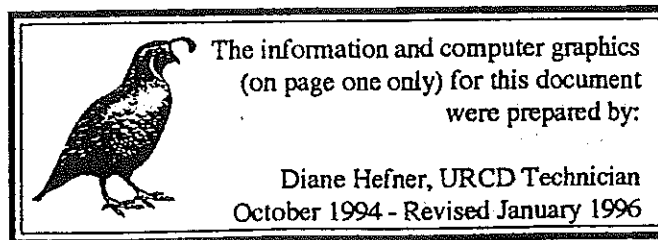
LISTS

Beneficial Insectary Plant List. Cornflower Farms. Elk Grove, CA. 1993/94.

PAMPHLETS

"Your Guide to Attracting Butterflies & Birds." Better Homes & Gardens. Meredith Corp. Produced for Wal-Mart.
1993.

Hart, Rhonda Massingham. "Using Beneficial Insects." Storey Publishing Bulletin #A-127. Storey
Communications, Inc. Pownal, Vermont 05261, 1991.



All NRCS & RCD programs and services are offered on a nondiscriminatory basis, without regard to race, color, national origin, sex, age, religion, marital status or those physically challenged.

Copyright pending © Ulatis Resource Conservation District