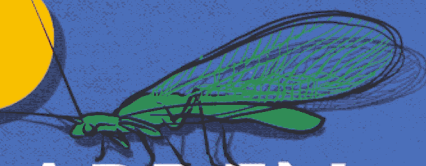


NATURALLY MANAGING

PESTS



...WITH A HEALTHY GARDEN

A healthy garden filled with a wide variety of flowering plants will be more resistant to significant pest damage. A healthy, diverse garden will also attract beneficial creatures, such as dragonflies, ladybugs, lacewings, syrphid flies, and “miniwasps,” which feed on pests.

ATTRACTING AND KEEPING BENEFICIAL INSECTS

- Reduce or eliminate the use of broad-spectrum pesticides in your garden. Birds, pollinators, and other beneficial insects are often far more sensitive to pesticides than the pests you might be trying to kill. Once pesticides eliminate the beneficial insects, pests are free to multiply without a natural check. As pest populations rise, you may be tempted to spray more frequently, but pesticides leave genetically resistant strains of

pests to breed, creating an increasingly resistant pest population. The harder it becomes to kill the pest, the more you’ll need to spray and the fewer natural enemies you’ll have to help you out.

- Provide food and water for the adult forms of beneficial insects. Although many beneficial insects perform their pest control services only during an immature stage; the adult stage feeds on nectar and pollen. You can attract and keep a wide variety of beneficial insects in your garden by including flowering plants that are rich in pollen and nectar. The Box on the back page lists a number of these “insectary” plants. Some adult beneficial insects also need water from dew, irrigation, or other sources to sustain them during dry periods.

CHOOSING THE RIGHT PLANT

One of the most important preventive steps in the pest management process is selecting appropriate plants for a particular location. Usually we choose plants for their beauty, but to minimize pest problems, consider other plant characteristics and the site where it will grow. It’s easier to plant a compatible

species for your site than to try to alter the growing conditions.

- Understand the soil conditions in your yard. Soil conditions must match the requirements of your plants. For example, some plants are well adapted to salty or compacted soil or soil with poor drainage.
- Know the sun and shade characteristics of your garden. Consider times of day and different seasons.
- Know that watering requirements differ depending upon the soil and plant type.
- Select pest- and disease-resistant plants.
- Plant a diversity of species. This ensures that a single pest problem will not devastate your entire landscape.
- To attract and keep beneficial insects, include “insectary” plants in your landscape (see box on back).
- You can get help in choosing the right plants from California Certified Nurserymen, University of California Cooperative Extension Master Gardeners, Horticultural Consultants, ISA Certified Arborists (see the Yellow Page Index), or local gardening clubs. Also, see the books recommended on the backside of this fact sheet.



Choose less toxic products for your home and garden. Look for this symbol before you buy.

PLANTING AND CARING FOR YOUR PLANTS

Start your plants out right by choosing healthy specimens and planting them properly. Keep your plants healthy by correctly watering, pruning, and fertilizing (if needed).

- Before you buy a plant, ask to examine the roots. Do not buy plants with roots that are kinked or circling the container. Also check the "root crown," the region where the roots meet the stem or trunk. Don't buy the plant if that area is soft, rotten, or deformed.
- Don't pile soil around the plant any higher than the root crown. Don't plant in a depression that will allow water to wash soil down around the stem or trunk and cover the root crown. A continually moist root crown can cause rot.
- Since a young plant doesn't have an extensive root system, it can dry out quickly. Water thoroughly and keep the soil moist, but don't drown the plant.
- Cover bare soil with mulch. Mulch conserves soil moisture so plants don't dry out as quickly. A four inch layer of mulch will prevent most annual weeds from growing, and any weeds that do sprout can be pulled out more easily.
- Use a mulch of leaves, bark, or composted manure and/or garden waste to provide organic matter to the soil and a slow, steady flow of nutrients to plants.

RECOMMENDED READING

- *Natural Enemies Handbook* by Mary Louise Flint and Steve H. Dreistadt, published 1998 by University of California Division of Agriculture and Natural Resources, Berkeley, CA.
- *Trees and Shrubs for Temperate Climates*, 3rd ed. by Gordon Courtright, published 1998 by Timber Press, Portland, OR; (503) 227-2878.
- *The Best of Fine Gardening: Healthy Soil* by the editors of *Fine Gardening* magazine, published 1995 by Taunton Press, Newtown, CT; (800) 888-8286.
- *Water Conserving Plants and Landscapes for the Bay Area*, 2nd ed. by Barrie Coate, published 1990 by East Bay Municipal Utility District, Oakland, CA.

- Use slow-release chemical fertilizers if soil testing indicates a need.
- Different plants require different kinds of pruning (if they need it at all). Learn how and when to prune your plants, and do so judiciously. Severe pruning can damage the plant and encourage pests and diseases.

INSECTARY PLANTS

The flowers on these plants have nectar and pollen that are accessible to beneficial insects.

Aster (*Aster*)
Baby blue eyes (*Nemophila*)
Calendula (*Calendula*)
Calif. lilac (*Ceanothus*)
Calif. poppy (*Eschscholzia californica*)
Chervil (*Anthriscus cerefolium*)
Chrysanthemum (*Chrysanthemum*)
Coriander (*Coriander sativum*)
Cosmos (*Cosmos*)
Coyote bush (*Baccharis*)
Dill (*Anethum graveolens*)
Elderberry (*Sambucus mexicana*)
Fennel (*Foeniculum vulgare*)
Fleabane (*Erigeron*)
Holly-leaved cherry (*Prunus ilicifolia*)
Monkey flower (*Mimulus*)
Native buckwheat (*Eriogonum*)
Queen Anne's lace (*Daucus carota*)
Rosemary (*Rosmarinus officinalis*)
Rudbeckia (*Rudbeckia*)
Sunflower (*Helianthus*)
Sweet alyssum (*Lobularia maritima*)
Tidy-tips (*Layia platyglossa*)
Toyon (*Heteromeles*)
Yarrow (*Achillea*)

PESTICIDES AND WATER POLLUTION

Common household pesticides show up in treated wastewater and in Bay Area creeks, sometimes at levels that can harm sensitive aquatic life. So, water pollution prevention agencies have teamed up with participating Bay Area stores to reduce the risks associated with pesticide use. This fact sheet is part of a series of information pieces and store displays aimed at educating Bay Area residents about less-toxic pest management. Look for the "Our Water Our World" logo next to products in participating hardware stores and nurseries throughout the Bay Area.

Pest control strategies and methods described in this publication are consistent with integrated pest management (IPM) concepts, and are based on scientific studies and tests in actual home and garden settings. Use suggested products according to label directions and dispose of unwanted or leftover pesticides at a household hazardous waste collection facility or event. No endorsement of specific brand name products is intended, nor is criticism implied of similar products that are not mentioned.

FOR MORE INFORMATION

For more information, contact:

Bio-Integral Resource Center (BIRC)
(510) 524-2567

University of California Cooperative Extension Master Gardeners in your area (in the phone book)

Central Contra Costa Sanitary District website: www.centalsan.org

University of California IPM website: www.ipm.ucdavis.edu

ACKNOWLEDGMENTS

This fact sheet and the accompanying IPM outreach program was developed by Central Contra Costa Sanitary District with the following contributions:

Writing:

Tanya Drlik, Bio-Integral Resource Center
Michael Baefsky, Baefsky & Associates

Design:

Lauren Wohl Design

Partial Funding:

Bay Area Pollution Prevention Group
Bay Area Stormwater Management Agencies Association
CALFED Bay-Delta Restoration Program
Regional Water Quality Control Plant (Palo Alto)

Thank You:

UCCE Master Gardeners
Participating stores

