

**disease and insect
spray program
for home gardens**

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**DECIDUOUS
TREES
SHRUBS
PERENNIAL
FLOWERS**

COOPERATIVE EXTENSION SERVICE • COLLEGE OF AGRICULTURE • WASHINGTON STATE UNIVERSITY • PULLMAN

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Cooperative Extension Service, J. O. Young, Director

PRECAUTIONS IN USING PESTICIDES

This publication lists and describes the control measures suggested for control of the more common injurious pests normally encountered. The pesticide recommendations are based on research by scientists of Washington State University, the USDA, and by other agencies. Those suggested are considered safe to use (when directions on label are followed carefully) and known to be effective.

In many cases, additional information on description of the pests, their damage, their life cycles, and their control may be desired. If your problem goes beyond the scope of this discussion, you can get additional help from your county Extension agent or from the Department of Entomology or Plant Pathology, Washington State University, Pullman. Remember, not all insects are pests. Many are either beneficial or harmless. Be sure you have a real problem before you employ pesticides.

Pesticides can be poisonous to men and animals. Use them only when needed and handle them with care. Follow the directions and heed all precautions on the label.

Keep pesticides in closed, well-labeled containers in a dry place. Store them where they will not contaminate food or feed, and preferably in locked storage where children and animals cannot reach them.

Avoid contact with pesticides. If any is spilled on skin or clothing, wash it off the skin thoroughly with soap and water and change clothing immediately.

Avoid inhalation of pesticide dusts or mists.

When handling pesticides, wear clean, dry clothing.

Wash your hands and face before eating or smoking and immediately after completing pesticide application.

To protect fish and wildlife, do not contaminate lakes, streams, or ponds with pesticides. Do not clean spraying equipment or dump excess spray material near such water.

Dispose of *empty* pesticide containers at a sanitary landfill dump, or bury them at least 18 inches deep in a level, isolated place where they will not contaminate water supplies. If you have trash collection service, wrap small *empty* containers in heavy layers of newspapers and place them in the trash can.

Do not apply insecticides such as diazinon to bloom as it is highly toxic to bees. Apply malathion during late evening to avoid bee poisoning.

**DISEASE AND INSECT SPRAY PROGRAM FOR HOME GARDENS
DECIDUOUS TREES,¹ SHRUBS, AND PERENNIAL FLOWERS**

These spray schedules are recommended in order to achieve maximum disease and insect control with materials available to the homeowner. However, successful control is influenced by many factors, and using an integrated scheme (use of several control methods) is suggested. Certain cultural practices can often help reduce the number of spray applications or enhance their effectiveness. An ability to diagnose problems early in their developing stages or an awareness of important weather patterns are also helpful in controlling pests. Information concerning the life cycles and possible cultural methods of control for specific diseases and insect problems is available at your county Extension office.

As a precaution against improper use of a pesticide, read and follow label directions prior to making any application. Be sure plant and pest are on the label.

Time of application	Insect and disease	Materials²
Dormant January and February	Algae, moss, lichens, black spot, mildews, botrytis twig blight, and spider mites on deciduous trees and shrubs	Lime-sulfur as directed on label + Superior spray oil
Budbreak, or as new growth begins March and April	Botrytis flower and twig blight	Benomyl <i>OR</i> captan
	Leaf spots, tent caterpillars, aphids	Zineb + diazinon <i>OR</i> Zineb + malathion <i>OR</i> captan + diazinon <i>OR</i> captan + malathion
When buds begin to swell and again 10 and 20 days later	Sycamore anthracnose	Fixed coppers <i>OR</i> Cyprex

Time of application	Insect and disease	Materials ²
Spring and early summer May and June One or two applications will usually be enough during this period	Leaf spots, webworms, rose leafhopper, aphids, leafminer, scale insects, tent caterpillars, apple and thorn skeletonizer (malathion is not labeled for control of this pest)	Zineb + diazinon <i>OR</i> Zineb + malathion <i>OR</i> captan + diazinon <i>OR</i> captan + malathion <i>Do not apply diazinon to bloom as it is highly toxic to bees. Apply malathion in late evening only to avoid bee poisoning!</i>
	Botrytis flower blight	Benomyl <i>OR</i> captan
	Powdery mildew of roses	Actidione PM <i>OR</i> benomyl <i>OR</i> Karathane
Mid- and late summer July, August, and September Follow label directions for spray intervals	Aphids, webworms, leafhoppers, leaf-rollers, mites, rose slug, scale insects, leafminers, tent caterpillars, apple and thorn skeletonizer (malathion is not labeled for control of this pest)	Diazinon <i>OR</i> malathion
	Powdery mildew of roses	Actidione PM <i>OR</i> benomyl <i>OR</i> Karathane
October to November	Leaf spots, twig blights, aphids, mites	Zineb + diazinon <i>OR</i> Zineb + malathion <i>OR</i> captan + diazinon <i>OR</i> captan + malathion

¹Does not include flowering fruit trees—see EM 3439 and EM 3436; deciduous trees and shrubs are those which lose their leaves each year.

²Add a spreader-sticker to sprays according to label directions. Do not use spreader-sticker with lime-sulfur.