



DELAYED-DORMANT

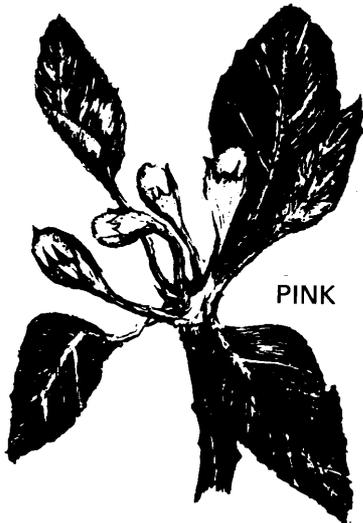


PREPINK

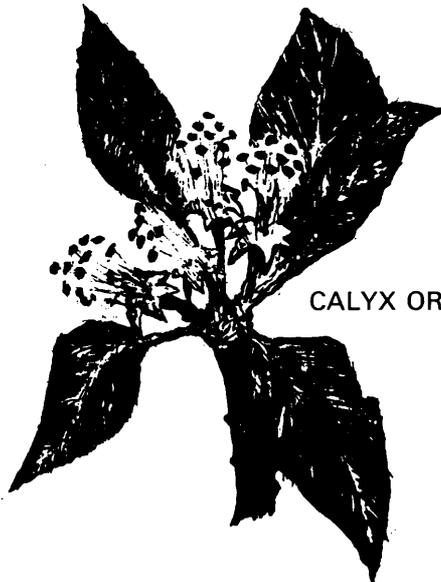
**disease and insect
spray schedule
for home orchards**

APPLES PEARS

Western Washington



PINK



CALYX OR PETAL FALL

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 people 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. If you have trash collection service, wrap small empty containers in heavy layers of newspapers and place them in the trash can.

WHEN TO APPLY

(see front cover for picture guide)

Before you buy and use any pesticide, be sure the plant and the pest are on the label, and follow all label directions and precautions.

	Dormant	Prepink and Pink	Petal Fall	10–14 days after petal fall	After Harvest
INSECTS	Lime sulfur plus Superior spray oil for blister mites scale †pear psylla †moss and lichens Superior spray oil in delayed dormant period for green apple aphid rosy apple aphid eggs and blister mites (add diazinon to oil spray for pear blister mite)	Diazinon** OR Malathion OR Thiodan for tent caterpillars other caterpillars such as leaf rollers, aphids OR <i>Bacillus</i> <i>thuringiensis</i> (B.t.) for caterpillars such as leaf rollers.	Diazinon** OR Malathion OR Thiodan for aphids caterpillars Thiodan for psylla Insecticidal soaps for mites aphids <i>Bacillus thuringiensis</i> for caterpillars other than codling moth	Diazinon OR Malathion OR Thiodan for aphids codling moth* scale crawlers caterpillars Thiodan for psylla Insecticidal soaps for mites aphids <i>Bacillus thuringiensis</i> (B.t.) caterpillars other than codling moth	Thiodan for pear blister mite (heavy infestations)
DISEASES	Copper Fungicide such as Microcop or Bordeaux for apple anthracnose † moss and lichens Do not mix lime sulfur and fixed copper in the same tank.	Captan for scab (apple only) OR Lime sulfur for scab powdery mildew OR Wettable sulfur*** for scab powdery mildew	Captan for scab (apple only) OR Lime sulfur for scab powdery mildew OR Wettable sulfur*** for scab powdery mildew	Captan for scab (apple only) OR Lime sulfur for scab powdery mildew OR Wettable sulfur*** for scab powdery mildew	Copper Fungicide such as Microcop or Bordeaux for apple anthracnose nectria canker moss and lichens
BOTH INSECTS AND DISEASES		Do not mix lime sulfur with any of the above. Do not mix (B.t.) with any of the above. Diazinon, malathion or Thiodan can be mixed with captan or sulfur.	Do not mix lime sulfur with any of the above. Do not mix (B.t.) with any of the above. Diazinon, malathion or Thiodan can be mixed with captan or sulfur.	Do not mix lime sulfur with any of the above. Do not mix (B.t.) with any of the above. Diazinon, malathion or Thiodan can be mixed with captan or sulfur.	Do not mix Thiodan and copper fungicides

†Pest not on label; however, use is legal if crop or site is on label and label directions are followed.

*For effective full season control of codling moth, sprays must be timed properly as follows: Apply first spray 10 days after full petal fall. Apply at least 4 sprays of diazinon or methoxychlor at 7–10 day intervals.

**Do not apply diazinon when trees are in blossom as it is highly toxic to bees. Apply malathion or thiodan sprays to blossoms in late evening only to avoid bee poisoning.

***Wettable sulfur does not give good control of scab when disease pressure is high. It can cause plant injury when applied during hot weather.

Note: See other useful sprays on back of this page.

If control is not satisfactory using materials listed in this guide, these additional materials can be used for the specific problems listed. They may not be available in garden stores, but may be obtained from commercial outlets. Some products are for commercial use only.

Other useful insecticides: follow label directions and precautions!

Imidan 12.5 WP for codling moth (best material for codling moth control)

Other useful fungicides: follow label directions and precautions!

*Benlate (benomyl) for scab and powdery mildew

*Syllit for scab (good fungicide to alternate with benomyl)

*Ziram for scab (apples only)

SPECIAL INSTRUCTIONS FOR APPLE MAGGOT-

Since apple maggot is established in parts of western Washington, the following spray program is offered and encouraged for control of this pest, especially in counties where it has been detected. As of this printing, apple maggots have been found in Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, King, Lewis, Pacific, Pierce, Skamania, Thurston, and Wakiakum counties.

- Apply diazinon as per label instructions, beginning mid July and again at intervals of 7–10 days to the preharvest interval mandated by the label.

By Ralph S. Byther, Ph.D., Washington State University Cooperative Extension Plant Pathologist, and Arthur L. Antonelli, Ph.D., WSU Cooperative Extension Entomologist, WSU Puyallup.

Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect you and the others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

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