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# Spray Schedule for Home Orchards

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## Spray Schedule for Home Orchards

The spray schedule in this leaflet was prepared for the home gardener. It does not meet the exacting requirements of the commercial fruit grower. The number of recommended materials and the time of application are a minimum.

Many commercial combinations of fungicides and insecticides are available. If used as the manufacturer recommends, these are effective in controlling the insects and diseases listed on the label.

To get good pest control, thorough spray coverage of trees is necessary. It is hard to get complete coverage with hand equipment, but it can be done. Good coverage means thoroughly wetting the leaves, twigs, and branches. When mixed with water, some chemicals such as DDT, methoxychlor, Sevin, wettable sulfur, and ziram tend to settle out. Shake or stir the spray mixture frequently during application.

Mature fruit will not have excess chemical residues if you observe the proper interval between the last spray and harvest, as indicated on the manufacturer's label. All fruits should be washed before eating.

### Pesticides Can Be Used Safely

The pesticides suggested in this leaflet have been selected on the basis of their effectiveness, availability, and safety. These pesticides, with the possible exception of the mercury fungicides, are among the less hazardous to the user. All can be used safely if common sense precautions are observed.

Follow the manufacturer's precautions on the pesticide label. These are not intended to frighten the user, but to impress upon him the need for careful use of pesticides.

- Store pesticides in a safe place, out of reach of children.
- Destroy empty containers or those without labels.
- Do not keep pesticides in beverage bottles or other containers which previously have been used for food or drink.
- When mixing and using pesticides, avoid getting them on your skin. Wash your hands after spraying.

## Spray Schedule

Time of Application	Insect or Disease	Materials and Amount Per 1 Gallon of Water*
<b>Apple and Pear</b>		
Early spring (dormant) ..... Just before buds open.	Blister mites, scale, scab.	Lime sulfur 1½ cups. (WARNING: lime sulfur will discolor painted buildings.)
	Scab only.	Cyprex 1T (Cyprex does not control mites or aphids).
Pink ..... Just before blossoms open.	Scab, mildew.	Lime sulfur ½ cup, or Cyprex 1T plus Karathane 1T.
Petal fall† ..... When blossom petals have fallen.	Scab, mildew.	Lime sulfur ½ cup, or Cyprex 1T plus Karathane 1T.
Two weeks later .....	Codling moth, spider mites, aphids, pear psylla, scab, mildew.	DDT or methoxychlor 2T plus malathion 2t, or diazinon 1T plus wettable sulfur 6T.
Three weeks later .....	Codling moth, spider mites, pear psylla.	DDT or methoxychlor 2T plus malathion 2t or diazinon 1T.
Four weeks later .....	Codling moth, spider mites, pear psylla.	DDT or methoxychlor or Sevin 2T plus malathion 2t or diazinon 1T.
Four weeks later ..... Apply this spray to late-maturing varieties only.	Codling moth, spider mites.	DDT or methoxychlor or Sevin 2T plus malathion 2t or diazinon 1T. If DDT or Sevin or methoxychlor + malathion or diazinon fail to control mites, add Kelthane 1T.
Post harvest, pears only ..... In fall after all fruit is harvested.	Blister mite, pear psylla.	Diazinon 1T.
<b>Peach</b>		
Dormant ..... Two sprays December 15 and before January 15.	Leaf curl.	Lime sulfur 1½ cups, or Puratized Agricultural Spray 1T, or TAG 1½t.
Bloom stage ..... Spray once per week during bloom. Apply first spray when first bloom appears.	Brown rot blossom blight.	Captan 2T, or wettable sulfur 6T, or TAG 1½t.
One week after blossom petals have fallen. ....	Coryneum blight.	Wettable sulfur 6T.
Summer spray ..... July 10 to 15, and again 3 weeks later.	Peach and prune root borer. Young trees are especially susceptible to injury.	Apply DDT ½ cup to lower limbs and trunk and around base of tree.
Ten to 14 days before picking .....	Brown rot, western spotted cucumber beetle (western Oregon only).	Methoxychlor or Sevin 2T plus wettable sulfur 6T. If spider mites become a problem, add malathion 2t 50% E.C. or Kelthane 2T.
After picking (September or October)	Coryneum blight.	Copper spray plus spreader-sticker (follow manufacturer's directions).
<b>Cherry</b>		
Bloom stage ..... Spray once per week during bloom. Apply first spray when first bloom appears.	Brown rot blossom blight.	Captan 2T, or wettable sulfur 6T, or TAG 1½t.
Early summer ..... When fruit flies first emerge—date announced by county agents. Usually when Royal Anns first turn red. If rains occur, add wettable sulfur for brown rot control. If heavy rain follows spraying, repeat spray.	Cherry fruit fly, brown rot.	Use methoxychlor 3T, or Sevin 2T, or diazinon 1T. Apply every 7 to 10 days until harvest. Flies rest on foliage other than cherry, so spray as much of surrounding foliage as practical. (5% methoxychlor or 10% Sevin dust is also effective, but will require a good duster for thorough application.)
Summer sprays (if pests appear) .....	Aphids, mites, slugs.	Malathion 2t 50% E.C. or diazinon 1T 25% E.C.

\* The amount of active ingredient of a pesticide may vary with the name-brand. Ask your pesticide dealer to help you calculate the correct dosages of his product to meet the above recommendations. T=tablespoonful, t=teaspoonful, E.C.=emulsion concentrate.

† If aphids are present, use malathion 1T or diazinon 1T plus wettable sulfur 6T. Malathion or diazinon, when combined with Karathane, may cause injury to apples.

# Formulations and Concentrations of Materials to Use in Spray Schedules

Material	Formulation and Concentration
Captan .....	50% wettable powder
Cyprex .....	65% wettable powder
DDT .....	50% wettable powder
Diazinon .....	25% emulsifiable concentrate
Karathane .....	25% wettable powder
Kelthane .....	18½% wettable powder
Lime sulfur .....	Liquid
Malathion .....	50% emulsifiable concentrate
Methoxychlor .....	50% wettable powder
* Puratized Agricultural Spray .....	Liquid (5% phenylmercury triethanol ammonium lactate)
Sevin .....	50% wettable powder
* TAG .....	Liquid (10% phenylmercuric acetate)
Wettable sulfur .....	Wettable powder
Ziram .....	76% wettable powder

\* These mercury-containing fungicides are poisonous—keep them from children and animals. Do not apply these materials after fruit is formed.

## Prune and Plum

Aphids are a frequent problem, and they may be controlled with diazinon or malathion at the rate of 2t per gallon of water. Treatment is most effective if the materials are applied before aphids cause the leaves to curl. These trees are susceptible to peach and prune root borers. Follow recommended control listed under peaches. If brown rot is severe on maturing fruit, dust with sulfur or spray with wettable sulfur.

## Apricot

Very susceptible to Coryneum blight on the fruit. For control, spray with captan or ziram one week after petals have fallen. Spray again in September or October with coppers, as recommended under peaches. Apricot trees are often injured by sulfur sprays or dusts.

Peach twig borer may attack apricots, peaches, and prunes, causing die-back (flagging) of twigs and wormy fruit. This insect can be controlled by applying DDT, Sevin, or diazinon just before blossoming or at petal fall.

## Nuts

It is necessary for commercial growers to control diseases and insect pests of walnuts and filberts. In most instances, it is impractical for the home owner to attempt these control practices on large walnut trees.

**Walnuts.** Bacterial blight causes black blotches on walnuts. It is impractical to attempt control of this disease with hand sprayers.

Aphids frequently become abundant on walnut trees, and they are a nuisance when the honeydew which they secrete drips on sidewalks or spots the finish of parked cars. On the smaller trees, aphids can be controlled with malathion applied by hand sprayers.

**Filberts.** Bacterial blight may girdle and kill young trees. The disease may kill many buds and nut-bearing twigs in older trees. Plant disease-free trees. Spray young trees in late summer (August) before the fall rains, with a fixed copper at the rate of 6T per gallon or 3 pounds per 50 gallons of spray. Spray again in the fall when three-fourths of the leaves are off the trees, and again in early spring when leaf buds are breaking open.

Aphids also attack filbert trees and can be controlled with malathion, diazinon, or Sevin. Filbert moth larvae cause "wormy" filberts. This insect is controlled by applying Sevin spray or dust about July 10 and again the first week in August. Leafroller larvae may attack filberts in late April and May and can be controlled with Sevin or diazinon.

This leaflet was prepared by Iain C. MacSwan, Extension plant pathology specialist, and R. W. Every, Extension entomology specialist, Oregon State University, Corvallis.