

*Spray Program for*  
**APPLES and PEARS**  
*in the Willamette Valley*

Prepared by the  
Federal Cooperative Extension Service  
In cooperation with the  
Departments of Plant Pathology  
Entomology, and Agricultural Chemistry

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**Federal Cooperative Extension Service**  
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F. E. Price, Director.  
Oregon State College, and the United States Department of Agriculture cooperating.  
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## DORMANT SPRAYING

with

*Miller's*  
**POLYSUL**

when used at dormant strength during Fall, Winter and Early Spring, helps to control diseases such as . . .



PEACH  
LEAF  
CURL

CORYNEUM  
BLIGHT  
ON FRUIT



POWDERY  
MILDEW

CLEAN-UP SPRAY

SUMMER SPRAY

Year-Round  
Protection

**ROSE MILDEW**  
**PEACH LEAF CURL**  
**SPIDER MITES**  
**SCALE - RUST**

*Spray* with

*Miller's*  
**POLYSUL**

(LIQUID LIME SULPHUR  
with SPREADER)

MILLER PRODUCTS CO.  
Portland 1, Oregon



## DORMANT SPRAYING

with

*Miller's*  
**POLYSUL**

when used at dormant strength during Fall, Winter and Early Spring, helps to control many over-wintering insects such as . . .



SAN JOSE  
SCALE

SPIDER  
MITES



BLACKBERRY MITES

## CLEAN-UP SPRAY

Miller's POLYSUL should be applied to nearly all trees, shrubs, and vines that drop or lose their leaves in winter.

Fruit Trees, Cane Fruits, Ornamentals, Shrubs, Bushes, especially Roses, are all benefited by dormant spraying.

The clean-up spray should also be applied to the soil under these trees and shrubs and to other garden areas where disease spores may overwinter. Complete coverage of all parts of the plants is essential if maximum efficiency is to be obtained.



## SUMMER SPRAYING

During the growing season, Miller's POLYSUL is used at summer strength and is applied to . . .

Rose Bushes, Tuberous Begonias, Phlox, Mums, and certain Fruit Trees and Shrubs,

to control Powdery Mildew and Spider Mites.

Miller's POLYSUL also helps to control Rust on Hollyhocks, Snapdragons and on similar plants.

If Powdery Mildew is suspected of being present on plants . . . apply POLYSUL **before** you see the tell-tale gray spotting.



Year after year experts use Miller's POLYSUL for essential plant protection because they know it is dependable. Assure yourself of this same effective protection by insisting on . . .

*Miller's* **POLYSUL** (Liquid Lime Sulphur with Spreader)  
Available: 8 oz., pints, quarts, gallons, 5 gallons, 50 gallon drums.

### Mask

Wear a respirator approved by the U.S. Department of Agriculture. With high exposures, use the full-face, cannister-type mask. Your county extension agent can tell you where to get these masks.

### Clothing

Wear rubber gloves, clean clothing, rubber overshoes, a slicker, and a hat. Change and launder these clothes often. The workman should bathe daily.

### General

1. There is danger to apple thinners and others working in orchards treated within 48 hours with most organic phosphorus insecticides.
2. Do not eat, smoke, or chew while mixing or applying organic phosphorus insecticides.
3. Mix these insecticides according to directions and apply at the recommended rate.
4. Never measure nor leave mixtures of these insecticides in beverage bottles nor in labeled cans or boxes which have formerly contained food products.
5. Wettable parathion powders should not exceed 25%, and ready-to-use dust should contain no more than 2% parathion.
6. Liquid sprays of parathion should not be in excess of 1 pound of the 25% wettable powder per 100 gallons of spray, if it is to be applied by hand.
7. Bury spilled insecticide and clean contaminated area with a weak lye solution.
8. Burn or bury empty insecticide bags or other containers.
9. Do not use as pasture cover crops treated with these insecticides until two weeks after treatment.

### Clinical Test

Anyone who regularly handles phosphorus insecticides should watch for any early effects of these spray chemicals by having blood cholinesterase determinations made periodically by his physician.

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This warning was prepared with the assistance of staff members of the Wenatchee, Washington Field Station of the Communicable Disease Center, Public Health Service, U.S. Department of Health, Education, and Welfare.

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# Miller's POLYSUL (Liquid Lime Sulphur with Spreader)

## DOMANT SPRAY (After leaves fall, buds dormant)

Crop and Pest	Time of Application	Amount to Use
1. <b>ROSES, DECIDUOUS ORNAMENTALS, APPLES, PEARS, PRUNES, CHERRIES</b> General Cleanup Spray Powdery Mildew Scale	<b>EARLY SPRING:</b> Just before buds break. Spray thoroughly bushes, trees and surrounding soil, weeds and trash.	5 tablespoons Miller's POLYSUL per quart of water; or 1 pint per 2 gallons of water; or 6 gallons per 100 gallons of water.
2. <b>SAME AS NO. 1</b> (When any of the following pests are also present add Miller's SPRA-OIL) Aphids: Eggs Spider Mites Pear Psylla Scale (Lecanium (Soft Brown), Rose, San Jose, Oyster Shell) Blister Mite Pear and Apple Scab Moss	<b>EARLY SPRING:</b> Just before buds break. Spray thoroughly bushes, trees and surrounding soil, weeds and trash.  <b>Mixing Directions:</b> 1. Add Miller's SPRA-OIL to sprayer slowly while filling tank with water. 2. Add Miller's POLYSUL last and mix.	<b>COMBINATION SPRAY</b> 2 tablespoons Miller's POLYSUL plus 2 teaspoons Miller's SPRA-OIL per quart of water; or 1 pint Miller's POLYSUL plus 10 tablespoons Miller's SPRA-OIL per 4 gallons of water; or 3 gallons Miller's POLYSUL plus 1 gallon Miller's SPRA-OIL per 100 gallons water.
3. <b>PEACHES</b> Peach Leaf Curl	<b>1st Spray: EARLY DORMANT</b> (buds dormant) Late Fall or Early Winter. Before Winter storms. <b>2nd Spray: EARLY SPRING</b> (Before buds break.) Spray surrounding soil area thoroughly, also. This 2nd spray is most essential.	5 tablespoons Miller's POLYSUL per quart of water; or 1 pint per 2 gallons of water; or 6 gallons per 100 gallons of water.
4. <b>BERRIES</b> (Cane Fruits) Anthracnose Leaf Spot Yellow Rust Cane Blight	<b>EARLY SPRING.</b> Just before buds break. Note: Spray again in fall as leaves start to turn color.	5 tablespoons Miller's POLYSUL per quart of water; or 1 pint per 2 gallons of water; or 6 gallons per 100 gallons of water.
5. <b>BERRIES</b> (Cane Fruits) Blackberry Mite ("Red Berry Disease")	<b>FALL:</b> After old canes are removed. Spray again in spring —see Spring and Summer Spray Chart.	Same as No. 4

## SPRING and SUMMER SPRAY (Foliage and Flower Sprays)

Crop and Pest	Time of Application	Amount to Use
6. <b>ROSES, TUBEROUS BEGONIAS, SWEET PEAS, LILACS, SNAP-DRAGONS, COLUMBINE, DEL-PHINIUMS, ORNAMENTALS</b> Powdery Mildew Rust Spider Mites	<b>GROWING SEASON:</b> For <b>Powdery Mildew</b> , spray as soon as foliage appears and during warm, moist weather, repeat at 4-day intervals. When the weather is warm and dry, spray at 10-day intervals. Repeat spray after rains. For <b>Spider Mites</b> , spray on first appearance of insect or damage and repeat at 4-day intervals until under control. Flowers may be discolored; if desired, pick before spraying.	1 teaspoon Miller's POLYSUL per quart of water; or 4 tablespoons per 3 gallons of water; or 2 quarts per 100 gallons of water. <b>Note:</b> On tender new growth — use ½ of the above dilution.
7. <b>GRAPES</b> Powdery Mildew	<b>1st Spray:</b> When new shoots are 6 to 8 inches long. <b>2nd Spray:</b> When shoots are 15 to 18 inches long. <b>3rd Spray:</b> When shoots are 2 to 3 feet long.	Same as No. 6. <b>Note:</b> Do not use after grapes are size of peas.
8. <b>PEACHES, CHERRIES</b> (Ornamental) Brown Rot (Blossom Blight) Peach Leaf Curl	<b>GROWING SEASON:</b> Start when blossoms show color (pop-corn stage), spray thoroughly every 7 to 10 days throughout the growing season. Apply more frequently during moist or wet weather.	1 teaspoon Miller's POLYSUL per quart of water; or 4 tablespoons per 3 gallons of water; or 2 quarts per 100 gallons of water.
9. <b>APPLES, PEARS, PRUNES</b> Scab Powdery Mildew Brown Rot (Blossom Blight) Spider Mites	<b>SPRING:</b> Apply when leaves are separating just exposing blossom bud cluster (pre-pink or pre-white) and apply at 7-day intervals for 3 or more applications. When in blossom, wait until ¾ of petals have fallen before spraying. Repeat applications during humid or after wet weather.	1 teaspoon Miller's POLYSUL per quart of water; or 4 tablespoons per 3 gallons of water; or 2 quarts per 100 gallons of water.
10. <b>BERRIES</b> (Cane Fruits) Blackberry Mite ("Red Berry Disease") Yellow Rust Anthracnose	<b>SPRING: First Spray</b> — After vines are trained and new buds are in the green tip stage.  <b>Second Spray</b> — When the fruiting arms are about 1 foot long before any blossoms have opened. See also Dormant Spray Chart.	5 tablespoons Miller's POLYSUL per quart of water; or 1 pint per 2 gallons of water; or 6 gallons per 100 gallons of water.  1 teaspoon Miller's POLYSUL per quart of water; or 4 tablespoons per 3 gallons of water; or 2 quarts per 100 gallons of water.
11. <b>LAWNS</b> (Established) Moss Toadstools Mushrooms	<b>Fall</b> application followed by <b>Spring</b> application. Thoroughly spray entire lawn. Repeat, if necessary, at 4- to 5-week intervals until under control.	2½ tablespoons Miller's POLYSUL per 1 gallon of water; or ½ cupful per 3 gallons of water; or 1 pint per 12 gallons of water; or 1 gallon per 100 gallons of water.

**SOIL TREATMENT:** To increase acidity of soil for acid-loving plants, Rhododendrons, Azaleas, Hydrangeas, spray soil only thoroughly around plants. Use 1 teaspoon Miller's POLYSUL per gallon of water. Apply about 1 quart diluted spray to soil around each plant.

**CAUTION:** Do not use Miller's POLYSUL on apples or pears immediately following an oil spray. Do not spray Delicious Apples with Miller's POLYSUL in the pink stage; severe drop of fruit may occur later. Do not use on Evergreens susceptible to sulphur injury. Do not apply spray during heat of the day when temperature is over 90°F. For exact timing and spacing of sprays, consult your local Agricultural Authorities or your State Agricultural Experiment Station. Do not spray straight or diluted material against any painted surface. Walls can be protected with heavy paper or a tarpaulin.

*Insist on Miller's*

SPRAY PROGRAM FOR APPLES AND PEARS IN THE WILLAMETTE VALLEY

These schedules are prepared to meet maximum spraying requirements for the control of various pests of apples and pears in the Willamette Valley.

It does not follow that this outline is needed in all orchards or, in fact, in any single orchard. This program may be used as a basis for pest control work in all apple and pear orchards in the Willamette Valley. Consult county extension agents and experiment station investigators for satisfactory modifications to meet your needs. For areas other than the Willamette Valley, consult your county extension agent or an experiment station worker.

The insecticides parathion, malathion, and EPN-300, which are recommended in the spray schedules, belong to the organic phosphorus group. Metacide, TEPP, and Systox, although not included in the spray schedules, also belong to the organic phosphorus group. All these materials except malathion are extremely poisonous and must be handled with utmost caution. GROWERS WHO PLAN TO USE THE MORE DANGEROUS ORGANIC PHOSPHORUS MATERIALS ARE URGED TO COMPLY WITH THE PRECAUTIONS GIVEN ON PAGES 11 AND 12.

A GUIDE FOR PER ACRE RATE OF APPLICATION

The dosages in the spray schedules refer to the amount of insecticides or fungicides to be mixed with 100 gallons of water and as would be applied by the bulk method using hand spray guns. If concentrate or semi-concentrate spray equipment is used, approximately the same amount of active ingredients is required per acre. The following chart gives the suggested amount of each spray material required per acre when applied to mature trees. It is suggested that these amounts be applied with 400 gallons of water per acre at a speed not in excess of 2 miles per hour. Experience with various types of equipment may enable growers to make economical and efficient modifications.

Spray material	Amount per acre	Spray material	Amount per acre
Parathion (25% wettable powder)	6 lbs	Ferbam	8 lbs
Malathion (25% wettable powder)	8 lbs	Ziram	8 lbs
EPN-300 (25% wettable powder)	6 lbs	Bordeaux (6-6-100-(copper sulfate	24 lbs
Aramite (15% wettable powder)	8 lbs	(lime	24 lbs
TEPP (20%)	1½ pts	Lime sulfur (prepink)	12 gals
DDT (50% wettable powder)	8 lbs	Lime sulfur (pink)	10 gals
Methoxychlor			
(50% wettable powder)	10 lbs	Lime sulfur (calyx)	10 gals
Lime sulfur (alone-dormant)	40 gals	Wettable sulfur (scab, mildew)	24-40 lbs
Oil (alone, dormant, actual oil)	16 gals	Polysulfide (prepink, scab, mildew)	16 lbs
Lime sulfur } combined in	12 gals	Polysulfide (pink)	6-8 lbs
Dormant oil } dormant	10 gals	Polysulfide (calyx)	6-8 lbs
Polysulfide } combined in	18 lbs		
Dormant oil } dormant	10 gals		

SPRAY SCHEDULE FOR APPLES IN THE WILLAMETTE VALLEY

<u>Time of application</u>	<u>Pest or disease</u>	<u>Material and amount per 100 gallons of spray</u>
<u>DORMANT SPRAY</u> As winter buds swell just before opening	Blister mite, San Jose scale	Lime sulfur, 10 gal. to 100. (See footnote 1)*
	San Jose scale, oyster shell scale, leaf roller, spider mites, aphids	Oil spray, 3.2% dormant oil emulsion (3.2% actual oil), -or- Lime sulfur, 3 gal., + dormant oil emulsion (2 gal. actual oil), -or- Polysulfide, 4 lbs., + dormant oil emulsion (2 gal. actual oil).
	Anthracnose	Bordeaux 6-6-100. (See footnote 2)
<u>PREPINK OR GREEN BUD SPRAY</u> Little leaves separating just enough to expose blossom bud cluster	Scab and powdery mildew	Lime sulfur, 3 gal., -or- Polysulfide, 4 lbs.
	<u>FOR</u> Aphids	<u>ADD</u> Nicotine sulfate, 3/4 pint plus spreader, -or- Parathion, 1 lb. 25% wettable powder, -or- Malathion, 2 lbs. 25% wettable powder.
<u>PINK OR PREBLOSSOM SPRAY</u> Just before blossoms open	Scab and mildew	Lime sulfur, 2½ gal., -or- Lime sulfur, 1 gal., + wettable sulfur, 4 lbs., -or- Polysulfide, 1½-2 lbs. + 4 lbs wettable sulfur, -or- Ferbam, 1½ lbs., -or- Ziram, 1½ lbs.
	<u>FOR</u> Fruit worms, leaf roller and bud moth	<u>ADD</u> Lead arsenate, 3 lbs. (See footnote 3)

\*See footnotes at end of table

Time of application	Pest or disease	Material and amount per 100 gallons of spray
<u>CALYX SPRAY</u> When 3/4 petals have fallen. Apply before calyx closes on central fruit cluster. <u>For Codling moth control, the calyx spray may be omitted if a DDT program is followed.</u>	Scab and mildew	Lime sulfur, 2½ gal., -or- Lime sulfur, 1 gal., + wettable sulfur, 4 lbs. -or- Ferbam, 1½ lbs., -or- Ziram, 1½ lbs. (See footnote 4)
	<u>FOR</u> Codling moth, leaf roller, fruit worm	<u>ADD</u> Lead arsenate, 3 lbs. (See footnote 3)
<u>FIRST COVER SPRAY</u> About 15 days after petals fall (See footnote 5)	Scab and mildew	Ferbam, 1½ lbs., -or- Ziram, 1½ lbs., -or- Wettable sulfur, 6 lbs.
	<u>FOR</u> Codling moth	<u>ADD</u> Lead arsenate, 3 lbs., -or- DDT, 2 lbs. 50% wettable powder.
	<u>FOR</u> Spider mites	<u>ADD</u> Parathion, 1 lb. 25% wettable powder, -or- Malathion, 2 lbs. 25% wettable powder, -or- EPN-300, 1 lb. 25% wettable powder, -or- Aramite, 1½ lbs. 15% wettable powder. (If wettable sulfur is used, the miticides may not be necessary.) (See foot- note 6.)
<u>SECOND COVER SPRAY</u> 15 or more days after first cover spray (See footnote 5)	Scab and mildew	Ferbam, 1½ lbs., -or- Ziram, 1½ lbs., -or- Wettable sulfur, 6 lbs.
	<u>FOR</u> Codling moth	<u>ADD</u> Lead arsenate, 3 lbs., -or- DDT, 2 lbs 50% wettable powder

Time of application	Pest or disease	Material and amount per 100 gallons of spray
<u>SECOND COVER SPRAY (Cont'd)</u> 15 or more days after first cover spray (See footnote 5)	<u>FOR</u> Spider mites	<u>ADD</u> Parathion, 1 lb. 25% wettable powder, -or- Malathion, 2 lbs. 25% wettable powder, -or- EPN-300, 1 lb. 25% wettable powder -or- Aramite, 1½ lbs. 15% wettable powder.
	<u>THIRD COVER SPRAY</u> Usually about last of July or first week in August. (See footnote 5)	Codling moth  <u>FOR</u> Spider mites
<u>FOURTH COVER SPRAY</u> (See footnote 5)	Codling moth	Lead arsenate, 3 lbs. to 100 gal. water. DDT should not be applied within 30 days of harvest to avoid residue problem.
	<u>FOR</u> Anthracnose and apple rots	<u>ADD</u> Bordeaux, 6-3-100, -or- Ziram, 1½ lbs. (See footnote 7)

## Footnotes:

1. The proportions of lime sulfur recommended for sprays in this bulletin are based on the use of the standard concentrated liquid lime sulfur, testing 32° Baumé hydrometer test.



## Footnotes: (Cont'd)

2. Use oil emulsion, 3.2 percent actual oil, plus Bordeaux 6-6-100. This spray will control all other pests listed except blister mite. Bordeaux is not compatible with lime sulfur or polysulfide.
3. To reduce the possibility of spray burn when lead is combined with lime sulfur, add 1 pound hydrated lime to 100 gallons.
4. Lime sulfur may cause burning of Delicious and Delicious strains during hot weather. During such weather conditions, use either Ferbam,  $1\frac{1}{2}$  lbs. or Ziram,  $1\frac{1}{2}$  lbs. to 100 gallons of water.
5. Consult county agent or experiment station worker for timing. In most counties, spray notices are sent out by county agents or appear in local papers.
6. If sulfur sprays fail to check red spiders, use parathion, malathion, EPN-300, or aramite. Parathion, malathion, EPN-300, and aramite may be added to lead arsenate or DDT sprays. Aramite, parathion, malathion, and EPN-300 are compatible with wettable sulfur.
7. In seasons of early fall rains, the presence of Bordeaux spray on light colored varieties may cause some reddish spotting around the lenticels. Such fruit should be picked early or sprayed with Ziram to avoid fruit infection.

SPRAY SCHEDULE FOR PEARS IN THE WILLAMETTE VALLEY

Time of application	Pest or disease	Material and amount per 100 gallons of spray
<u>DORMANT SPRAY</u> As winter buds swell just before opening	Blister mite, San Jose scale	Lime sulfur, 10 gal. to 100. (See footnote 1)*
<u>DELAYED DORMANT OR GREEN TIP STAGE</u> Apply before bud scales drop	Scab and powdery mildew  San Jose scale, oyster shell scale, leaf roller, spider mites, aphids, pear psylla.	Lime sulfur, 3 gal., + dormant oil emulsion (2 gal. actual oil), -or- Polysulfide, 4 lbs., + dormant oil emulsion (2 gal. actual oil).
<u>PINK OR PREBLOSSOM SPRAY</u> Just before blossoms open	Scab and mildew	On Anjou, Comice or Seckel use Ferbam $1\frac{1}{2}$ lbs. or Ziram $1\frac{1}{2}$ lbs.  On other varieties use:  Ferbam $1\frac{1}{2}$ lbs., -or- Ziram $1\frac{1}{2}$ lbs., -or- Polysulfide $1\frac{1}{2}$ -2 lbs. + wettable sulfur 4 lbs., -or- Lime sulfur 1 gal., + wettable sulfur 4 lbs., -or- Lime sulfur $2\frac{1}{2}$ gal.
	<u>FOR</u> Fruit worms, leaf roller and bud moth	<u>ADD</u> Lead arsenate, 3 lbs. With lime sulfur, add hydrated lime, 1 lb. to 100 gal.

\* See footnotes at end of table.

Time of application	Pest or disease	Material and amount per 100 gallons of spray
<u>CALYX SPRAY</u> When 3/4 petals have fallen. Before pear calyx on central fruit cluster closes. <u>For codling moth control, the calyx spray may be omitted if a DDT program is followed.</u>	Scab and mildew	On Anjou, Comice or Seckel use Ferbam 1½ lbs., or Ziram 1½ lbs. On other varieties use: Ferbam 1½ lbs., -or- Ziram 1½ lbs., -or- Lime sulfur 1 gal. + wettable sulfur 4 lbs., -or- Lime sulfur 2½ gal., -or- Wettable sulfur 6 lbs.
	<u>FOR</u> Codling moth, leaf roller, fruit worm	<u>ADD</u> Lead arsenate, 3 lbs. (See footnote 2)
<u>FIRST COVER SPRAY</u> About 15 days after petals fall. (See footnote 3)	Scab and mildew	On Anjou, Comice or Seckel use Ferbam 1½ lbs., or Ziram 1½ lbs. On other varieties use: Ferbam 1½ lbs., -or- Ziram 1½ lbs., -or- Wettable sulfur 6 lbs.
	<u>FOR</u> Codling moth, pear psylla, spider mites, pear slug	<u>ADD</u> Lead arsenate, 3 lbs. -or- DDT, 2 lbs. 50% wettable powder for codling moth control. Add to the lead arsenate or DDT spray one of the following for pear psylla and mite control:  Parathion, 1 lb., 25% wettable powder, -or- Malathion, 2 lbs., 25% wettable powder, -or- EPN-300, 1 lb. 25% wettable powder. (See footnote 4)

Time of application	Pest or disease	Material and amount per 100 gallons of spray
<u>SECOND COVER SPRAY</u> 15 or more days after first cover spray (See footnote 3)	Scab and mildew	On Anjou, Comice or Seckel use Ferbam 1½ lbs., or Ziram 1½ lbs. On other varieties use: Ferbam 1½ lbs., -or- Ziram 1½ lbs., -or- Wettable sulfur 6 lbs.
<u>THIRD COVER SPRAY</u> Usually about last of July or first week in August. (See footnote 3)	<u>FOR</u> Codling moth, pear psylla, spider mites	<u>ADD</u> Lead arsenate, 3 lbs. -or- DDT, 2 lbs. 50% wettable powder for codling moth control. Pear psylla and mites may need to be controlled. If these pests present, add one of the following: Parathion, 1 lb. 25% wettable powder, -or- Malathion, 2 lbs. 25% wettable powder, -or- EPN-300, 1 lb. 25% wettable powder. Aramite, 1½ lbs. may be added to lead arsenate or DDT for mite control. Aramite does not control pear psylla. (See footnote 4)
<u>FOURTH COVER SPRAY</u> (See footnote 3)	Codling moth	Lead arsenate, 3 lbs. DDT should not be applied within 30 days of harvest to avoid residue problem. If mites or psylla are present, add one of the materials suggested in third cover spray.

## Footnotes:

1. The proportions of lime sulfur recommended for sprays in this bulletin are based on the use of the standard concentrated liquid lime sulfur, testing 32° by Baume hydrometer test.
2. To reduce the possibility of spray burn, when lead arsenate is combined with lime sulfur, add 1 pound hydrated lime to 100 gallons of the spray mixture.
3. Consult county agent or experiment station worker for timing. In most counties spray notices are sent out by county agents or appear in local papers.
4. Parathion, malathion, EPN-300, and aramite are compatible with Ferbam and wettable sulfur.

In some instances growers are handling their insect and disease problems to their satisfaction by dusting. If dusting be done, the following schedule is suggested:

DUSTING SCHEDULES FOR APPLES AND PEARS

Time of application	Pest or disease	Dust material and strength
<u>GREEN BUD</u> Little leaves separating just enough to expose blossom bud cluster (See footnote 1 - Important)	Scab and powdery mildew	Dusting sulfur or 10% ferbam dust.
<u>FIRST COVER</u> (Apply dust first week in June)	Codling moth, scab, mildew	DDT 10% dust plus dusting sulfur or 10% ferbam dust. (See footnote 2)
<u>SECOND COVER</u> (Apply dust 4-5 weeks after first cover)	Codling moth	DDT 10% dust.
<u>THIRD COVER</u> (Apply dust 4-5 weeks after second cover)	Codling moth, anthracnose, apple rots (See footnote 3)	DDT 10% dust, copper dust. (6 to 10% copper expressed as metallic)

Footnotes:

1. During a rainy season dust every seven days for scab as long as wet weather continues.
2. If you are unable to obtain a DDT, ferbam, or a 10% DDT sulfur dust already mixed, it is advisable to apply the dusts separately rather than try to mix the two together by hand.
3. Apply a copper dust for control of anthracnose and rots on apples in western Oregon, except yellow and green varieties, at time of third cover spray.

PRECAUTIONS FOR THE USE OF ORGANIC PHOSPHORUS MATERIALS

Watch for These Symptoms

The organic phosphorus insecticides easily enter the body through the mouth and throat, through contact with the skin, and through breathing. Repeated exposures to these insecticides may, without symptoms, increase susceptibility to poisoning.

The initial symptoms are giddiness, usually with headache, blurred vision, constriction of pupils, and tightness of the chest. Nausea, vomiting, diarrhea, and muscular twitchings are typical of poisoning by the organic phosphorus insecticides. An increased flow of saliva and congestion of throat and chest are common.

What to Do for Poisoning

1. Before using organic phosphorus insecticides, obtain from your druggist a supply of 1/100 gr. atropine tablets to have on hand for emergency use. Do not use this drug before exposing yourself to these insecticides. It will not prevent poisoning and may hide important warning symptoms. Use one or two tablets only after definite symptoms occur. Atropine is a potent drug. Therefore, always call a physician when you take the tablets.
2. Call a physician at once.
3. Never give anything by mouth to an unconscious patient.
4. INTERNAL--If the insecticide has been swallowed and vomiting has not resulted, induce vomiting by giving a strong soap solution or a tablespoonful of salt dissolved in one-half a glassful of warm water.
5. SKIN--Where the insecticide has come into contact with the skin, immediately remove all clothing and bathe the patient with generous amounts of soap and water, rinsing thoroughly.
6. EYES--If spray gets into the eyes, wash them with flowing water for at least 15 minutes.
7. The patient should be made to lie down and kept warm.