



University of Idaho  
College of Agriculture

Current Information Series No. 603

Cooperative Extension Service  
Agricultural Experiment Station

June 1981

## Insect Control for Apples And Pears in the Home Garden

*Craig R. Baird and Hugh W. Homan, Extension Entomologists*

LIBRARY

JUN 17 1983

UNIVERSITY OF IDAHO

Several pests of major importance affect apples and pears grown in the home garden. Quality fruit cannot be produced without good pest control and tree care. As a home gardener, you must be willing to spray your trees on a regular basis to prevent damage. This publication should help you control the important insect and mite pests of apples and pears.

### *Major Insect Pests*

The **Codling Moth** is the common worm found in apples and the major pest of apples and pears. Unsprayed apples will have 50 to 85 percent wormy fruit. Pears also become infested, but the damage is usually less severe.

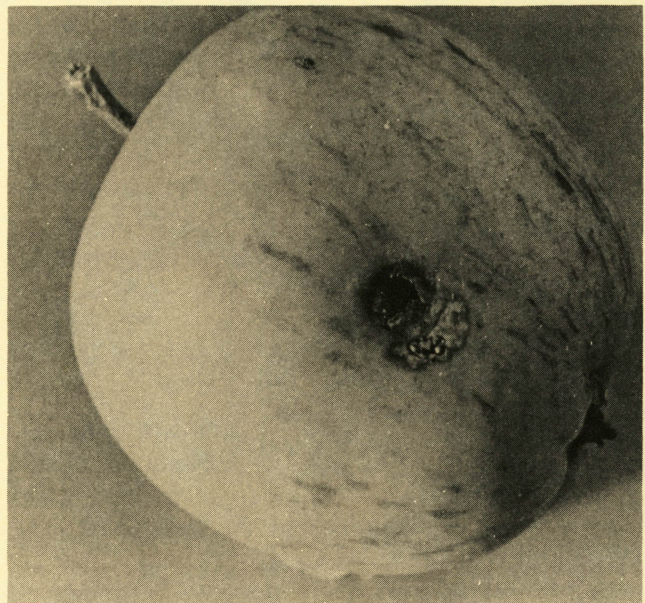
The moths are seldom seen in an orchard because they are active during twilight hours. Several generations may develop during a season, but the first generation is the most important. Most failures in overall codling moth control result from poor control of the first brood. If good control is obtained with the early summer sprays, the later broods will be greatly diminished unless you have unsprayed trees in your immediate vicinity. Imidan, diazinon and Sevin are the most effective insecticides for control of this pest.

The **Rosy Apple Aphid** is potentially the most damaging aphid species on apples because the aphids cluster on the undersides of leaves of the fruit spurs where they can cause severe leaf curling. Damage results in misshapen and dwarfed fruits.

The rosy apple aphid overwinters as an egg, often hidden in cracks in tree bark or in bud axils. Newly hatched rosy apple aphids are found on very young growth in early spring. Young aphids are dark green but turn a rosy brown color when mature. Mainly a springtime pest on apple trees, this aphid migrates to weed hosts by early summer.

The **Apple Aphid**, often called the green apple aphid, also overwinters as an egg on the bark of apple trees. It hatches slightly later in the spring and remains on apple trees throughout the growing season. This aphid's main damage is the retarded growth of new shoots. In heavy infestations, the apple aphid may cover foliage and fruit with large quantities of honeydew on which an unsightly sooty black fungus will grow.

Dormant oil sprays are a very effective control of both aphid species. If you don't use a dormant spray, apply an insecticide for aphids before the tree blooms (prepink) and again, if needed, after the blossoms have fallen. Do not spray insecticides on blossoming trees because most insecticides will kill the bees necessary for pollination. Summer sprays may be required if aphids remain a problem into the warm months.



Codling moth damage.

**San Jose Scale** is a serious pest of neglected and poorly cared for fruit trees. Unless controlled, this insect may result in heavy infestations on apple and pear trees that can kill entire limbs or cause a marking of the fruit. The scale, after attaching itself to the twig or fruit, secretes a whitish-gray, waxy, protective covering.

The protective wax covering of the fully grown female scale, beneath which it lives and feeds, is round and about the size of a pinhead. Young are produced in early summer. These scale crawlers spread out rapidly to establish new feeding sites on fruit and new growth where they settle. These crawlers secrete their own waxy coverings.

The waxy scale covering also protects the insect from insecticide sprays. Only a dormant oil spray with or without diazinon is effective against this covering. You can control the unprotected scale crawlers with other summer-applied insecticides.

**Pear Psylla** is a pest only of pears. Since it prefers cool weather and succulent foliage, populations build up in the spring and early summer. However, injurious populations persist throughout the season if you don't control them early. Besides weakening the tree, this pest produces honeydew that causes a black, russet-like injury when it contacts the fruit. The dormant and pre-pink early season sprays are the most important. Summer sprays may be necessary in some years.

The **Pear Slug** is a flattened, slug-shaped, slimy, black, sawfly larva. This insect occurs in early summer when it skeletonizes pear leaves. It is very easy to control with a variety of pesticides.

Several species of insects called **Leafrollers** feed on foliage and roll the leaves of fruit trees. When leafrollers attack early in the season, fruit is often cut off or fed upon, becoming strongly deformed. The apple-and-thorn skeletonizer is a serious pest of unsprayed trees in Idaho's panhandle. Spray the foliage for leafrollers with diazinon or Sevin when you first see damage, usually soon after bloom.

The **European Red Mite and Twospotted Spider Mites** feed on leaves and fruit. The mites puncture the leaf cells and remove the contents. The leaves first become mottled green, then turn bronze and then often drop from the tree. The European red mite overwinters as an egg and can be killed with a dormant spray at that time. The twospotted spider mites and summer generations of the European red mite must be treated with Kelthane as needed.

The **Pear Rust Mite, Apple Rust Mite** and the **Pear Leaf Blister Mite** russet and scar the fruit, causing leaves to turn pale green and then brown between major veins. These mites are often suppressed by predators. Dormant sprays of polysulfide or diazinon are effective for overwintering generations and early in the season after petal fall. Thiodan or Kelthane are effective in the summer.

### *Spraying Fruit Trees*

Effective control results from the proper application of an appropriate chemical at the correct time. No one chemical will adequately control all pests of apples and pears. The control of susceptible stages of any pest requires timing of treatments based on pest development. Generally, skips and misses in spray application will result in fruit damaged by insects and mites. This is particularly true for the codling moth.

Certain insects require special treatment. Proper timing of application and thorough coverage of twigs, branches, leaves and fruit are as important as the chemical used. Spray both leaf sides until spray begins to drip.

Generally, an average 10-year-old fruit tree will need 4 to 5 gallons of dilute spray to thoroughly wet all the foliage. Dwarf trees require less spray.

### *Spray Timing*

**Dormant and Delayed Dormant Spray**  
(Green may be showing but leaves cannot yet be differentiated)

**Pre-pink Spray**  
(A period from delayed dormant until flower color can be seen)

**Postbloom or Summer Sprays**

Consists of a special weight oil. The spray may be mixed with some insecticides if desired. Apply during the late winter or early spring (February-April) when trees are dormant. This spray is very useful in controlling aphids, mites, the pear psylla and scales and is necessary every year on badly infested trees. Do not apply when temperatures are below 45°F or when freezing temperatures are forecast within 24 hours. Do not apply after the trees have begun to leaf out.

Consists of an appropriate insecticide (no dormant oil) applied just before the buds reach the pink stage before bursting. This spray is useful for controlling aphids, scales and some caterpillar pests. It is usually applied from mid to late April. Do not use such chemicals during the bloom period in order to prevent the killing of pollinators of the fruit.

Usually applied about 21 days after full bloom, generally in late May for the first spray. Use insecticides appropriate for the pest. When multiple pest problems occur, appropriate insecticides may be mixed and applied as one spray or purchased as mixed sprays. These sprays are necessary for controlling the codling moth and for summer populations of aphids and the pear psylla.

## Spray Schedule

*Home Garden Apples and Pears in Idaho*

Time of application	Target pest	Insecticide and amount per gallon of water	Days from application to harvest
<b>Dormant</b> (February-March)	Scales, Aphid eggs, Mite eggs	5 T Superior oil and 8 T Calcium polysulfide or	0
		4 T Superior oil and 1 T Diazinon 50 WP	14
	Pear psylla (pears only)	8 T Superior oil and 1 T Diazinon 50 WP or	14
		1 tsp Nicotine sulfate 40 EC	0
<b>Pre-pink</b> (just before blossoms open)	Mites, Aphids, Pear psylla	3 T Imidan 12 WP	7
	Mites, Aphids, Scale crawlers, Leafrollers	2 tsp Diazinon 50 WP or	14
		1 T Diazinon 25 EC	14
	Aphids, Rust mite, Blister mites, Pear psylla	2 T Thiodan 9 EC	30 apples 7 pears 21 pear psylla
<b>Summer</b> For codling moth, the first application should be made May 25 to 30. Repeat applications are necessary until harvest.  Other pests should be sprayed only when damaging populations are present	Codling moth, Mites, Aphids, Pear psylla	3 T Imidan 12 WP	7
		1 T Diazinon 50 WP or 2 tsp Diazinon 25 EC	14
	Codling moth, Pear slug, Fruitworms, Scale crawlers, Bud moths, Pear psylla		2 T Sevin 40 EC or
		2 T Sevin 50 WP (Do not apply Sevin until 30 days after full bloom to prevent excessive thinning)	1
	Spider mites	4 tsp Kelthane 35 WP	

T = tablespoon, tsp = teaspoon

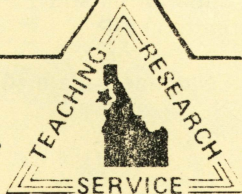
### *Pesticide Formulation*

Insecticides may be purchased as wettable powders (WP) or as emulsifiable concentrates (EC). Either kind must be diluted in a prescribed amount of water before applying as a spray. Sprays using emulsifiable concentrates require less agitation but may burn tender foliage, especially when applied during the heat of the day. You can buy general purpose insecticide mixtures, which usually include some of the chemicals listed, to spray fruit trees.

### *Chemical Recommendations*

The chemical recommendations made in this publication are based on the best information available at the time of printing. Before using any pesticide, read the instructions on the label. Follow all precautions and restrictions for safe product use.

*To simplify information, trade names have been used. Neither endorsement of named products is intended, nor is criticism implied of similar products not mentioned.*



## SERVING THE STATE

Teaching . . . Research . . . Service . . . this is the three-fold charge of the College of Agriculture at your state Land-Grant institution, the University of Idaho. To fulfill this charge, the College extends its faculty and resources to all parts of the state.

**Service** . . . The Cooperative Extension Service has offices in 42 of Idaho's 44 counties under the leadership of men and women specially trained to work with agriculture, home economics and youth. The educational programs of these College of Agriculture faculty members are supported cooperatively by county, state and federal funding.

**Research** . . . Agricultural Research scientists are located at the campus in Moscow, at Research and Extension Centers near Aberdeen, Caldwell, Parma, Tetonian and Twin Falls and at the U. S. Sheep Experiment Station, Dubois and the USDA/ARS Soil and Water Laboratory at Kimberly. Their work includes research on every major agricultural program in Idaho and on economic activities that apply to the state as a whole.

**Teaching** . . . Centers of College of Agriculture teaching are the University classrooms and laboratories where agriculture students can earn bachelor of science degrees in any of 20 major fields, or work for master's and Ph.D. degrees in their specialties. And beyond these are the variety of workshops and training sessions developed throughout the state for adults and youth by College of Agriculture faculty.

Issued in furtherance of cooperative extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, in cooperation with the U. S. Department of Agriculture, H. R. Guenther, Director of Cooperative Extension Service, University of Idaho, Moscow, Idaho 83843. We offer our programs and facilities to all people without regard to race, creed, color, sex or national origin.

3/10