

APPLE & PEAR HOME ORCHARD PEST MANAGEMENT CHART
 For Central Washington -- Revised **May, 2007**

Dr. Mike Bush, Extension Educator, Yakima County and Marianne C. Ophardt , Extension Director, Benton County

Choose non-chemical management as your first choice. Some pests may require pesticide sprays to provide supplemental control. Homeowners must refer to the pesticide label before they purchase and before they apply a pesticide product to confirm that the product may be applied to backyard (home garden) fruit trees.

| PEST PROBLEM | CROPS | PRODUCTS | MANAGEMENT GUIDELINES AND APPLICATION TIMINGS |
|---|---|--|--|
| <p>Spider or Red Mites Mite populations can build up by late spring or summer. Mite feeding on the surface can cause yellowing and premature leaf drop.</p> | <p>Apple, Pear</p> | <p>Horticulture Petroleum Oils Insecticidal Soaps</p> | <p>In most seasons, mites are controlled by natural enemies such as predatory mites. If mite problems are experienced in previous season, apply horticultural oils at the dormant to delayed dormant stage (February & March) to control over wintering mite eggs. During the season, conserve natural enemies by avoiding broad-spectrum insecticides. Avoid tree stress, especially improper irrigation. Mites can be washed off trees with applications of insecticide soaps.</p> |
| <p>Aphids Aphid populations can build up throughout spring months. Aphid feeding results in sticky honeydew, leaf curling, shoot malformation and even tree stunting.</p> | <p>Apple, Pear</p> | <p>Horticultural Petroleum Oils Insecticidal Soaps or Azadirachtin (Neem Extract) or Malathion</p> | <p>Aphid may be associated with vigorous growth on young trees. If aphids were a problem in previous season, apply horticultural oils at the dormant to delayed-dormant to control over wintering aphid eggs. In most seasons, aphids will be controlled by natural enemies like lady beetles and lacewings. Conserve natural enemies by avoiding broad spectrum insecticides. Most aphid species leave fruit trees for summer plant hosts. Homeowners may be able to prune out heavily infested shoots and water sprouts. Apply insecticide sprays only when aphids are present. For best results, apply before infested leaves curl up. Homeowners may wash aphids from tree with strong stream of water before infested leaves curl up.</p> |
| <p>Scale Insects Scale insect feeding can result in sticky honeydew and can devitalize and kill twigs and branches. Scale can attach to fruit surface causing blemishes.</p> | <p>Apple, Pear</p> | <p>Horticultural Petroleum Oils</p> | <p>Scale insect populations can take several years to build to damaging levels. If scale problems are experienced in previous season, apply horticultural oils at the dormant season to control over-wintering scales.</p> |
| <p>Pearleaf Blister Mite By late spring or early summer, blister mite feeding can result in the formation of pale green to reddish blisters on the upper leaf surface, premature leaf drop and scars on fruit surfaces.</p> | <p>Pear</p> | <p>Horticultural Petroleum Oils or Lime Sulfur</p> | <p>In most seasons, blister mites are controlled by natural enemies or by dormant applications for other pests; however, they can cause damage in unsprayed or abandoned young trees. If blister mites were a problem in the previous season, apply oil or lime sulfur in the early spring just prior to bud swell.</p> |
| <p>Pear Psylla Psylla is an annual pest in pear. Psylla feeding results in copious amounts of honeydew, can cause leaf burning, defoliate trees, fruit drop and stunt tree growth.</p> | <p>Pear</p> | <p>Horticultural Petroleum Oil or Kaolin Clay* Insecticidal Soaps or Azadiractin or Kaolin Clay*</p> | <p>Psyllas are highly mobile and will find backyard trees in regions where commercial pear production occurs. Apply oils at the dormant stage as buds begin to swell and again at delayed dormant, just as buds start to open. Apply Kaolin a few days in advance of bud swell and delayed dormant so that a white coating covers foliage where egg-laying occurs. There are many predators and parasites that will control low infestations of pear Psylla. When possible, avoid stimulating flushes of growth (prune lightly, proper fertility). Remove water sprouts and suckers. Apply these products as needed. Add horticultural oil to Azadiractin for improved Psylla control.</p> |

| | | | |
|---|----------------|--|--|
| <p>Powdery Mildew A gray-white fungus that colonizes fruit and leaf buds, leaves and even entire shoots. Leaves may curl, distort, brown, become brittle and die. Mildew causes fruit surface russeting.</p> | Apple | Lime Sulfur or Wettable Sulfur | Homeowners can plant less susceptible apple varieties. Homeowners can prune and destroy the whitish infected buds and shoots early in spring to prevent fruit infection. Apply fungicides at bud cluster when buds start to open and at the pink stage just before blossoms open. |
| <p>Fire Blight A bacterial disease where infected leaves, shoots and fruit develop water-soaked appearance. Shoots, twigs and branches will quickly blight and wilt. Leaves die but remain attached to branches. This disease can quickly kill young pear and apple trees.</p> | Apple, Pear | There are no effective products for homeowners | Fireblight is the most destructive disease of pears and many of the newer apple varieties. Usually only a problem when we experience very warm and wet spring conditions during tree bloom. Blight resistant or tolerant varieties exist. Homeowners must recognize and immediately remove diseased branches in late spring and early summer. Cut branches 15-18" below visible symptoms of blight and sanitize pruning between cuts. |
| <p>Codling Moth The immature stage of this moth is the worm in the apple and can be distinguished from other "worms" by its habit of boring directly to, and feeding on, the seeds at the core of the apple.</p> | Apple, Pear | Malathion Spinosad Kaolin Clay* | Codling moth is highly mobile and will establish itself annually on untreated backyard apples. Homeowners need to routinely (weekly) scout apples on trees for signs of worm infestation. Remove and destroy infested fruit. Pheromone baited traps will remove male moths only. Check with your WSU Extension office regarding the emergence and trapping of moths in your area. For Malathion and Spinosad, apply every 10 days starting when pheromone traps indicate that adult moths are present (about 10 days after all flower petals have fallen from the tree). Be sure to follow the pre-harvest interval. Kaolin Clay acts as a repellent. Apply at petal fall and keep foliage and fruit coated. This may require reapplication every 7 – 10 days until harvest. The white coating on the fruit can be washed off with water and a soft brush. |
| <p>Apple Maggot (Apple Fruit Fly) The immature stage, the maggot, tunnels within the flesh of the apple often just beneath the apple skin.</p> | Apple | Kaolin Clay* Spinosad | This pest is an invading pest in Western Washington and is not commonly encountered in Central Washington. Homeowners who suspect they have Apple Maggot should contact their Extension Office immediately for confirmation. For more information, please refer to EB1928 on <i>Protecting Backyard Apple Trees From Apple Maggot</i> . Apply Spinosad every 10 days starting in mid-June and continuing to harvest. |
| <p>*Kaolin Clay: Surround at Home Crop Protectant is the only Kaolin product available to home gardeners. It can be mail-ordered from "Garden's Alive Inc.", mail order supply or go to http://www.GardensAlive.com. Special Note: Retail sales of Diazinon ceased on 12/31/2004. Home gardeners may use their stock of Diazinon as per labeled instructions.</p> | | | |

Please note that in the State of Washington, homeowners are legally responsible for controlling the spread of horticultural pests and diseases. If you are unable or unwilling to accept this responsibility, please consider replacing fruit trees with other tree and plant varieties.

For further information on Home Orchard Pest Management do not hesitate to contact your local Master Gardener Program at your WSU Extension Office. For Benton/Franklin County, call 509-735-3551. For Yakima County call 509-574-1600. For Grant/Adams County, call 509-754-2011.

WSU Extension programs and employment are available to all without discrimination.



WSU Grant and Adams Area Extension
Courthouse, P.O. Box 37, Ephrata, WA 98823
509-754-2011 • 1-800-572-0119
Fax: 509-754-0163 • TDD: 1-800-833-6388

BEFORE YOU SPRAY READ THIS

WILL SPRAYING DO ANY GOOD?

The very first step in dealing with a sick plant is to find out why the plant is sick. 60-70% of plant problems sent to WSU Extension have cultural or environmental origins. Spraying pesticides will not help and may actually cause additional problems.

Pesticides are for specific pests on specific plants. Using them on the wrong plant could cause further damage to the plant.

Some plants are sensitive to some pesticides. If you apply a proper pesticide for a pest but the plant is sensitive to the chemical, you can severely damage the plant, sometimes causing more damage than the pest itself would have caused.

Insecticides have no effect on fungi – and fungicides don't kill insects. Know what the problem is and use the correct solution for the problem.

Beneficial "good" insects that eat or kill pests such as aphids, caterpillars or slugs (and therefore naturally keep these pests under control) are often more sensitive to pesticides than the pests themselves.

Different pests have different life cycles and different tolerances to insecticides. You have to apply a pesticide when the pest is in a vulnerable life state – and while it is still present at the spray site.

Spraying could be a waste of time and money and could be hazardous to the ecological balance in your yard if the proper amount and timing of the spray is not followed for a given pest. **READ THE LABEL CAREFULLY!**

Some pesticides – especially fungicides – are only preventive. Plants won't heal the damage from mildew or other damage already present, but if the spray is timed properly it may prevent new infestations.

PEST IDENTIFICATION RESOURCES

There are many resources to help you know what is making your plant sick. If you need to identify a pest, first obtain a specimen of the pest/problem. Then refer to pest identification and control publications available from Wsu Extension, the US Dept. of Agriculture, or from commercial publishers or public libraries. You can also take the sample to a Master Gardener clinic or local nursery, WSU Extension office, university, arboretum or commercial pest control business.

ALTERNATIVES TO SPRAYING

Knowing the plant and meeting its cultural needs helps prevent many plant problems. A healthy plant can survive attacks by insects and diseases – frequently with no spraying or intervention on the part of the homeowner.

Consider that a certain amount of damage from insects or disease is normal and that there are natural forces working against the pest. The plant can usually sustain a fair amount of damage before its health is

adversely affected. A small amount of damage may be more of an aesthetic issue than one of the health of the plant. If damage is slight, the affected leaves could be hand picked or just left alone. Being able to tolerate some holes in your rhody leaves or other small amounts of damage could be looked upon as your contribution to the natural balance in your yard – and you still have the option to spray if they start to get out of hand later.

Consider less toxic means of controlling smaller infestations: hand-picking or pruning out infested leaves or branches; trapping; spraying insects off with the spray of water from a hose; practicing good garden sanitation by getting rid of infected leaves, etc.

When choosing new plants for the garden, seed out the pest resistant varieties.

CONSIDERATIONS (WHEN SPRAYING IS JUSTIFIED)

You are liable for any damage your spray causes to neighboring property-caused by wind drift or the carrying of the pesticides off your property by water runoff. You are also negligent if you do not use the pesticide labeled for a specific pest on a specific plant with the specific dilution of the chemical listed on the label.

Any use or dilution not specified on the label is a violation of federal and state laws.

Make sure that the pesticide label specifies the plant you are spraying (such as rhododendron) and site (leaves, soil, and garbage can). Do not let spray drift onto food crops (fruits, vegetables, herbs, berries, etc.) unless it is labeled for those crops and the number of days before harvest is adhered to.

Do not let the spray drift into neighboring yards unless you have consulted with them in advance, and toys, barbecues, picnic tables, etc. have been moved indoors or covered. Make sure children and pets are safely inside and follow label instructions carefully concerning when they can safely be allowed

back in the sprayed area. Homeowners can be fined for pesticide misuse in some states. Don't spray on windy days or allow spray to drift onto blooming plants or weeds where bees might encounter it. Bees can carry the toxins back to the hive with the pollen and kill off the entire hive.

Slug bait can be attractive to dogs and can make dogs and pets sick if eaten directly or accidentally (as when preening themselves after having rolled in the bait in the garden). Slug bait is also toxic to birds and other wildlife. Birds feeding on treated areas may be killed. It is best to put the slug bait under a board or other shelter to keep birds and animals from eating it.

Don't over-apply pesticides. Many of the pesticides are easily carried by runoff water into ground water, streams, ponds, lakes, wetlands, and even Puget Sound where birds, fish and other wildlife can be killed.

Don't dispose of unused chemicals in sewers, or dump them down the drain. Sewage treatment does not filter out pesticides and the chemicals eventually make it into Puget Sound. Take unused, old or unwanted chemicals to a hazardous household waste pickup point for disposal.

BEFORE YOU SPRAY – CHECKLIST

- Do you know what insect/disease you are spraying for?
- Is the pesticide you've chosen registered for use on that plant for that pest/disease?
- Is the pest/disease you are spraying for listed on the label?
- Is the level of damage substantial to warrant spraying or will the problem take care of itself naturally?
- Is the pest present and in a stage that will be killed by the pesticide at the time you are planning to spray?