



PEARS PESTS/DISEASES AND SPRAY SCHEDULE

For help in identifying home orchard problems or for more complete information on specific fruit pests or diseases, contact your county's WSU Extension office.

Pesticide Use

Washington State Law (RCW 15.09.060) states that property owners must control horticultural pests on their property. Help commercial orchards by maintaining good care and pest management practices for your desired fruit trees.

- Do not apply pesticides until a specific insect or disease has been positively identified. Using wrong or unnecessary sprays can be a loss of resources and can pose a hazard to people and the environment.
- Apply pesticide sprays only at the proper time of tree, bud, or pest development. Sprays applied at the wrong time are also ineffective. Vary products during the season and in following seasons to minimize pest resistance.
- Homeowners should not make foliar applications to trees over 10 ft tall. Consult a commercial pesticide applicator for treatment of trees and shrubs over 10 ft. tall.
- Always carefully read and follow label directions of the product you use. The Label is the Law.
- For more information about protecting pollinators: <https://agr.wa.gov/getmedia/6144c435-c1ad-4092-afe3-436bdd627e41/388-tenwaystoprotectbeesfrompesticides.pdf>

Major Insects	Parts affected/management	Major Diseases	Parts affected
Aphids Causes twisted/deformed leaves and stunted shoots. Fruits may be distorted. Produces	Leave, fruit See spray schedule below	Botrytis/ Gray Mold Overwinters on mummified fruit left on trees and fallen leaves. Decayed areas appear light to dark brown appearance	Flowers, fruit See spray schedule below



honeydew, a sweet, sticky material. Natural enemies can be effective on aphids.		where fruit is spongy. Fluffy white to gray mycelium and grayish spore masses may appear fruit. May have a “cedar-like” smell and the entire decayed fruit may appear “baked”.	
Apple-and thorn skeletonizer Adult is a small dark-brown or reddish-brown moth.. Caterpillars are yellow-green. Damage includes skeletonized leaves, or leaves that are rolled into a cone and tied with webbing. Damaged leaves are brown and papery and drop prematurely.	Leaves, fruit See spray schedule below	Bull's Eye Rot (Anthracnose, Perennial Canker) Cankers appear as small reddish-brown areas. Cankers elongate during spring reaching full size (1-10" long) by midsummer. Cream-colored fungal sporulation may be observed. The bark usually splits away around the canker edge.	Fruit and Branches See spray schedule below
Brown Marmorated Stink Bugs Young stink bugs, or nymphs, are black with a red-and-black striped abdomen. Older nymphs are dark with white bands on body, legs, and antennae. Adults are a little over 1/2" long, with a shield-shaped body. Adult's bodies are mottled gray and brown, while the legs and antennae have alternating dark and light bands. Abdomen has dark and light bands which are visible at the edge of the wings. Sunken areas and deformities on the surface of the fruit are typical symptoms.	Fruit, seeds, seed pods, stems, leaves No Chemical Management recommended for adults Brown marmorated stink bug See spray schedule below	Crown gall Soilborne bacteria that causes galls. They appear as fleshy, white, enlarged masses on the roots or stems. Older galls are hardened and turn dark brown and woody or corky.	Crown, Roots, Stems No Chemical Management recommended Crown gall
Codling Moth <u>Required control in Spokane County</u> The gray wings of adult codling moths are marked with dark brown bands near the wingtips. larvae burrow into fruits, usually through the blossom end, where they eat the core and seeds. The fruit appears dirty brown or rotted in the center when cut open. Mature larvae are cream-colored to pinkish-white with brown heads and about 3/4" long.	Fruit See spray schedule below	European canker (Nectria canker) Young cankers are sunken, dark, and water-soaked in appearance. Older cankers are irregularly elongated and covered with dead bark. White fungal fruiting bodies appear first season. Round, red fruiting bodies produced second season. Fruit may have an eye rot at the blossom end or a rot on the side of the fruit.	Twigs, branches, fruit See spray schedule below


Cutworms and armyworms Fruit damage-small to large holes in the fruit surface. Armyworm typically feed during the day, Cutworms at night.	Leaves, bud before blooming, fruit See spray schedule below	Fire Blight <u>Required control in Spokane County</u> Bacterial infection where twigs and flowers initially appear water-soaked. Cankers also can develop. Reddish-brown streaking beneath the bark in the cankered area may be observed.	Blossoms, twigs, branches, trunk <u>No Chemical Management recommended</u> Fire blight
Leafrollers Leaves that are rolled and tied in place with webbing, often with frass in the webbing. Damaged leaves are often near shoot tips and may be skeletonized or chewed.	Leaves and shoot tip See spray schedule below	Pacific Coast pear rust A fungal disease that deforms fruit and drops prematurely. Yellowish spots with cup-shaped pustules develop on fruit.	Leaves, green shoots, fruit <u>No Chemical Management recommended</u> Pacific Coast pear rust
Pear psylla Moth <u>Required control in Spokane County</u> The red-eyed nymphs range in color from yellow to dark brown. Damaged leaves may be blackened or burned in appearance. Produces large amounts of honeydew which causes russetting on fruit.	Leaves, bud, fruit See spray schedule below	Pear Scab Fungus the results in gray-brown to blackish lesions. Overwinter in fallen leaves	Leaves and Fruit See spray schedule below
Pear rust mite Very small mite that require magnification to see. Causes scarring around calyx and light russetting over surfaces. Adult rust mites are wedge-shaped and yellowish brown with two pairs of legs near the front of the body.	Fruit, Leaves See spray schedule below	Pear trellis rust A fungus which results bright yellow to orange spots on pear leaves, fruit, twigs and branches in spring and summer. Diseased fruit may become mummified. Brown fruiting bodies first appear blister-like, then develop a distinctive acorn-like shape with a pointed tip.	Leaves, fruit, twigs and branches <u>There are no products labeled for homeowner</u> Pear trellis rust
Pear slug (pear sawfly) Larval stage of the glossy, black sawfly. Pupa are covered with dark green to black slime. Pear slugs skeletonize leaves. Severe infestations can cause defoliation, weaken trees, and affect fruit development.	Leaves, fruit See spray schedule below	Powdery Mildew Develop a characteristic gray-white powdery growth Dark brown to black fruiting bodies of the fungus can be seen around midsummer, while the whitish mycelia turn brown at this time. Infected leaves are often curled and distorted.	Twigs, leaves, blossoms, fruit See spray schedule below

Pearleaf blister mites Mites are light in color, cylindrical, tapered at the posterior end, with two pairs of short legs at the front of the body. Appears as a small worm. Feeding inside the leaf tissues, resulting in pale green to reddish blistered areas. Later, these areas will turn brown to black as the leaf tissue dies.	Buds, Leaves, Fruit See spray schedule below	Pseudomonas blossom blast and dieback A bacterial infection that causes buds to turn a papery brown and die. Leaves may be spotted and fruit cluster bases can turn brown or black. Bacterial ooze is not present with Pseudomonas blast.	Leaves, flower, stems, twigs, branches See spray schedule below
San Jose Scale Yellow crawlers that infest wood and may cause death of limbs or the entire tree. Fruit develops sunken spots surrounded by reddish areas.	Trunk, limbs, leaves and fruit See spray schedule below	Stony pit A virus resulting in dark green areas on young fruit. The areas become pitted, becoming hardened, sometimes dying. Fruits may be mildly to severely deformed. Young leaves may show a faint mottling and bark may be "pimpled" or cracked.	Fruit, bark <u>No Chemical Management recommended</u> Stony pit
Spider Mites Several species may be found on pear leaves, including the two spotted and McDaniel spider mites and the European red mite. Various colors including yellow, greenish, brown, or red. All cause a whitish to yellow stippling. Severe damage, leaves take on a bronzed appearance. Leaves often develop small to large necrotic brown spots during hot weather. Webbing of mites found on the lower leaf surfaces and between leaves and twigs.	Leaves See spray schedule below	Virus diseases Virus diseases may cause bark to appear roughened or blistered.	Leaves, bark, fruit <u>No Chemical Management recommended</u> Pear Viruses

Spray Schedule

Growth Stage	Pest/Disease	Non-Chemical and Chemical Control/Management	Notes
Dormant Stage: Late winter as buds begin to swell in February	Overwintering Pear psylla, scales, aphids, and mites Leafrollers	Pear Psylla San Jose scale Aphids Spider mites Leafroller	These are the most important stages and chemical spray for pest control. Spray to completely wet the tree.

	Pear rust mite Pearleaf blister mites	Pear mites Use homeowner recommendations only	Pear psylla has two to three generations, plus a winter form, per year. Become active at bud swell.
	Pseudomonas blossom blast and dieback	Pseudomonas blossom blast and dieback	
 <p>Delayed dormant stage: In late winter, just as buds begin to show first green tissue</p>	Apple-and-thorn-skeletonizer	Pear apple and thorn skeletonizer	<p>This is the most important stage and chemical spray to control pests.</p> <p>Manage pests as they hatch in early spring</p> <p>Spray when daytime temperature is between 45 - 55 F, with no frost forecast overnight. Finish spraying by noon to insure good dry time.</p>
	Overwintering Pear psylla, aphid eggs, blister mites, scale eggs, Leafrollers	Pear Psylla Aphids Pearleaf blister mites San Jose scale Leafroller	
	Pear Scab	Scab	
 <p>Pre-pink stage: Before blossom buds show pink color to Petal Fall</p>	Codling moth	Codling moth	<p>Apply about 10 days after full petal fall or 17-21 days after full bloom for Codling moth</p> <p>If treatments were applied at pink and/or bloom, determine the density of surviving leafrollers prior to deciding to apply additional controls.</p> <p>Natural enemies control pear slug populations fairly effectively.</p>
	Cutworms and Armyworms	Cutworms and Armyworms	
	Leafroller	Leafroller	
	Powdery mildew	Powdery mildew	
	Brown marmorated stink bug	Brown marmorated stink bug	
	Pear Scab	Pear Scab	
	Pear slug/ Pear sawfly	Pear slug- sawfly	

 <p>Summer sprays: Also called cover sprays because they cover leaves and fruit</p>	San Jose scale	San Jose scale	Apply when larval damage approaches 25% to 30% defoliation.
	Aphids	Aphids	<p>Aphids seldom build up to damaging levels in home garden fruit trees. Wash them off with stream of water from the hose, you rarely have to spray</p> <p>If the pear is not protected, the egg laid by the Codling moth will hatch and the worm will enter the apple and be protected from sprays.</p> <p>Starting early July, keep tree protected through August.</p> <p>Reapply after brief, heavy rainfall or showers of longer duration then resume regular schedule.</p>
	Codling moth	Codling moth	
	Pear psylla	Pear Psylla	
	Pear slug/Pear sawfly	Pear slug- sawfly	

C044 – Spray Schedule for Pears

			Remove infested fruit from the tree, seal in black garbage bags. Leave in sun for two weeks to kill worm.
Before fall rains and during early leaf fall.	Bull's-Eye Rot In apple, not pear	Bulls eye rot anthracnose	
	Nectria canker (European canker)	Nectria canker	
	Pear blister mites Pear rust mites	Pear mites	
	Pseudomonas blossom blast and dieback	Pseudomonas blossom blast and dieback	

Adapted from Chelan-Douglas Counties County Extension

2019 Crop Protection for Tree Fruits in Washington

For Pesticide Safety see: <https://tfrec.cahnrs.wsu.edu/admin/pesticide-safety-handling/>

To report unsprayed trees at homes or on abandoned orchards contact: Spokane County Horticultural Pest and Disease Board: email: PestBoard@spokanecounty.org