

Walnut

2008 Pest Management Guide for the Willamette Valley

The chemicals, formulations, and rates listed for insect, mite, and disease control are among the best recommendations based on label directions, research, and orchard use experience. Only a thorough knowledge of the orchard, its variety, tree size and density, canopy characteristics, pest complex, and past pest problems will enable you to correctly select chemicals, rates, amount of water used per acre, and method of application for optimum pest control. Occasionally, different formulations of a product or like formulations containing a different amount of active ingredient also are registered and effective for use on the pests listed. These products also may be used; we do not intend to discriminate against them. You may wish to consult their labels and determine whether their use confers advantages over the products listed in this guide.

Always refer to the pesticide label for use instructions. It is the legal document regarding use patterns. Two questions frequently are asked about the chemical control of insects and diseases: “How much chemical do I use per acre?” and “What is the least amount of water I need per acre to apply in my concentrate sprayer?” Notice that the schedule below suggests an amount of formulated product (not active ingredient) to use per acre. This amount is based on a “typical” middle age and density orchard with moderate pest pressure. Common sense indicates that less material may be needed (than that given) for 1- to 4-year-old orchards. Conversely, more chemical (within label limits) may be required for large, mature trees experiencing heavy pest pressure from multiple pests.

Many insecticide labels today indicate the minimum amount of water needed per acre to apply concentrate sprays of insecticides, as well as how to calculate the amount of chemical needed per acre in a concentrate sprayer. CHECK LABEL BEFORE SPRAYING!! Some label directions indicate dilute applications only.

Also:

1. Make sure any tank mixes of pesticides are compatible. For example, the elevated pH of some boron spray solutions weakens many insecticides.
2. Use adjuvants and spreader stickers with caution.
3. Heavy, brief rain or extended rainfall (0.75 inch for more than 24 hours) can remove pesticides from fruit and foliage. Reapplication may be necessary (within label limits).

Special Notes

Diazinon is not labeled for use on walnuts. Existing supplies with the older label still may be used according to label instructions.

Blackline of walnuts is a serious disease that can't be controlled by use of pesticides. For more information, see EM 8907, *Growing Walnuts in Oregon* (\$1.50). Order from Publication Orders, Extension & Station Communications, Oregon State University, 422 Kerr Administration, Corvallis, OR 97331-2119.

Use only one material except where a combination is indicated. Follow label precautions when tank-mixing oils, fungicides, and insecticides. Materials not listed in order of preference.

Stages

Early
prebloom
Late
prebloom
Postbloom

Not shown
June-July
July-August



Early prebloom



Late prebloom



Postbloom

Walnut Pest Control Recommendations

Use only one material except where a combination is indicated. Follow label precautions when tank-mixing oils, fungicides, and insecticides. Materials are not listed in order of preference.

Early Prebloom (late March to early April, when catkins begin to enlarge)

Pest or disease/ Material	Amount of product per acre	Comments/Reentry interval/Preharvest interval (PHI)
Blight and downy leaf spot		
bordeaux 4-2-100	—	The low-lime formula reduces the possibility of bordeaux foliage injury. See footnote 2.
C-O-C-S WDG	12-16 lb	24-hour reentry.
Copper-Count-N	8-12 qt	12-hour reentry.
Cuprofix Dispers	10-20 lb	24-hour reentry.
Kocide 2000	6-9 lb	24-hour reentry.
Nordox 75 WG	5-8 lb	24-hour reentry.
Nu-Cop 50DF	8-12.5 lb	24-hour reentry.
tribasic copper sulfate	12 lb	24-hour reentry.
+ spreader-sticker	4-6 oz	—

Late Prebloom (early to mid-May, when shoots begin to expand)

Pest or disease/ Material	Amount of product per acre	Comments/Reentry interval/Preharvest interval (PHI)
Blotch (anthracnose)		
<i>Note:</i> No materials are registered specifically for this disease. The following is suggested, but there is no information about efficacy.		
Abound	11-12 fl oz	4-hour reentry. Do not use within 45 days of harvest
Gem	6-8 oz	12-hour reentry.
Orbit	4-8 fl oz	24-hour reentry. 60-day PHI.

Blight

Note: See materials and remarks for early prebloom stage.

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Postbloom (late May)

Pest or disease/ Material	Amount of product per acre	Comments/Reentry interval/Preharvest interval (PHI)
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Blight

Note: See materials and remarks for early prebloom stage.

June-July

Pest or disease/ Material	Amount of product per acre	Comments/Reentry interval/Preharvest interval (PHI)
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Aphids

Asana XL	10-16 oz	Do not use more than 0.2 lb ai/A per season. Do not feed or graze livestock on treated orchard floors. 21-day PHI.
Cobalt	26-57 oz	Do not make more than 2 applications per season. 14-day PHI.
endosulfan 50W	4 lb	21-day PHI.
Esteem 35WP	13-16 oz	Do not exceed 2 applications per season. 21-day PHI.
insecticidal soap (M-Pede)	2%	0-day PHI.
Lorsban 50W	4 lb	Make no more than 1 dormant stage application and no more than 2 foliar spray applications on walnuts per season. Do not graze orchard floors. 14-day PHI.
malathion 57% EC	0.8-1.6 pt	See footnote 1. 0-day PHI.
Provado 1.6	3.5-7 oz	7-day PHI.
Success 2L	4-10 oz	Do not apply fewer than 14 days apart. Do not use more than 29 oz/A per season. 14-day PHI.
Supracide 2E	4-8 pt	Apply as a cover spray when aphids appear. Do not graze orchard floors. 48-hour reentry. 7-day PHI.
Warrior	2.56-5.12 oz	14-day PHI.

Aphids, codling moth

Note: Monitor codling moth with pheromone traps beginning in June. See footnote 3.

Scales (apply when crawlers appear; chemical control of scales usually is not necessary)

Esteem 35WP	13-16 oz	Do not exceed 2 applications per season. 21-day PHI.
Supracide 2E	4-8 pt	Do not graze orchard floors. Do not make more than 2 cover sprays during the growing season. 2- to 14-day reentry. 7-day PHI.

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July-August

Pest or disease/ Material	Amount of product per acre	Comments/Reentry interval/Preharvest interval (PHI)
Walnut husk fly		
Ambush 2E	13-25 oz	Do not graze orchard floor. 1-day PHI.
Asana XL	10-16 oz	See restrictions under aphids. 21-day PHI.
Baythroid 2	2.4-2.8 oz	14-day PHI.
Brigade WSB	0.1-0.2 lb active/acre	7-day PHI.
Cobalt	26-57 oz	Do not make more than 2 applications per season. 14-day PHI.
Guthion Solupak 50WP	3-4 lb	14-day reentry. 21-day PHI.
Imidan 70W	4.33-8.5 lb	Do not apply more than 5 times per season. 14-day PHI.
Lorsban 50W or Lorsban 4E	4 lb 3-4 pt	Make no more than 1 dormant stage application and no more than 2 foliar spray applications on walnuts per season. Do not graze orchard floors. 14-day PHI.
malathion 57% EC	1.6-2.4 pt	See footnote 1. 0-day PHI.
Pounce 3.2EC	8-16 oz	Do not graze orchard floor. 1-day PHI.
Success 2L	4-8 oz	Do not apply treatments fewer than 14 days apart. Do not use more than 29 oz/A per season. Entrust is the organic formulation. GF-120 NF is the spinosad bait formulation. 14-day PHI.
Warrior	2.56-5.12 oz	Do not apply more than 1.6 pt/A per season. 14-day PHI.

Fall webworm

Note: Insecticides labeled for walnut husk fly, diazinon, and *Bacillus thuringiensis* will control this pest. Only spot treatments are necessary. Completely drench the infested branch. Applications made when the larvae are small are most effective.

Footnotes

1. More than one type of formulation usually is available for most insecticides. Lower rates can be used on smaller trees.
2. Bordeaux 4-2-100 means 4 pounds of copper sulfate plus 2 pounds of hydrated lime in 100 gallons of water. In any bordeaux formula, ingredients always are listed in the same order—copper sulfate, hydrated lime, then gallons of water.
3. Early summer nut drop can be a result of codling moth infestation. Inspect nuts for larvae and monitor moths with pheromone traps. *Walnut Production Manual* (University of California Publication 3373) provides information on codling moths as a pest of walnuts.

Note: Resistance to copper-based products has occurred in California and easily could occur in Oregon. If you are having trouble controlling walnut blight, call Dr. Jay Pscheidt at 541-737-3472.

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OSU Internet resources for plant protection

Information regarding plant protection is available from several sources at OSU. The following listings are excellent examples:

- OSU Integrated Plant Protection Center. Online weather data and degree day information for insect pests and diseases (<http://ippc2.orst.edu/wea/index.html>)
- Eastern filbert blight help page— all the information you need for this disease (<http://oregonstate.edu/dept/botany/epp/EFB/>)
- Codling moth development information (<http://ippc2.orst.edu/cgi-bin/ddmodel.pl?clm>)
- Apple scab infection season information (<http://ippc2.orst.edu/cgi-bin/ddmodel.pl?spp=asc>)
- Pear scab infection season information (<http://ippc2.orst.edu/cgi-bin/ddmodel.pl?spp=asp>)
- Pear scab infection period information for the Hood River Valley (<http://ippc2.orst.edu/hr/>)
- Fire blight risk information (<http://ippc2.orst.edu/cgi-bin/ddmodel.pl?fb1>)

Directions for the use of each model are available at each site.

- OSU Botany and Plant Pathology Department. Site of "Online Guide to Plant Disease Control." Disease symptom descriptions, pictures of disease symptoms, and other information helpful in plant protection (<http://ipmnet.org/plant-disease/>)
- Pacific Northwest Insect Management Handbook (<http://pnwpest.org/pnw/insects>)
- Pacific Northwest Weed Management Handbook (<http://pnwpest.org/pnw/weeds>)

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Basic Elements of Safe Pesticide Use

- Always read the label with care. This is the first step in selecting the right material for the job. Never rely on your memory. Before opening the container, pay strict attention to warnings and cautions printed on the label.
- Keep all pesticide and spray materials out of the reach of children, pets, and irresponsible persons. Storage outside of the home, away from food and feed, and under lock and key is the safest method.
- Store only in the original container and keep tightly closed.
- NEVER smoke, eat, or drink while applying pesticides.
- Avoid inhalation or direct contact. Always wear protective clothing and safety devices as recommended on the label.
- Avoid spills. If spills occur, take immediate action to remove contaminated clothing and wash thoroughly.
- After each application, bathe and change to clean clothing. Wash clothing after each use. Always use fresh clothing when starting new application.
- Avoid contamination of fish ponds and water supplies. Cover feed and water containers when treating around livestock or pet areas.
- Keep separate equipment for use with hormone-type herbicides to avoid accidental injury to susceptible plants. Also avoid applications under wind conditions that could create drift to nontarget areas.
- Rinse empty containers three times before disposing of them. Add the rinse to the spray tank and dispose of containers according to local regulations to avoid hazard to humans, animals, and the environment.
- Follow label directions for mixing and application to keep residues within the limits prescribed by law.
- Plan ahead. Discuss with your physician the materials you will be using during the season so that he or she can be prepared to provide the appropriate treatment in case of accidental exposure. If symptoms of illness occur, call the physician or get the patient to a hospital immediately. Always provide the medical personnel with as much information as possible.
- Be cautious when you apply pesticides. Know your legal responsibility as a pesticide applicator. You may be liable for injury or damage resulting from pesticide use.

Oregon Poison Center

The Oregon Health Sciences University

3181 S.W. Sam Jackson Park Road, Room CB 550

Portland, OR 97201

Phone: 503-494-8968; Oregon Toll Free: 1-800-452-7165; Nationwide: 1-800-222-1222

If a person has collapsed or is not breathing, dial 911.

Prepared by Jeff Olsen, Extension horticulturist, Yamhill County, and Jay W. Pscheidt, Extension plant pathologist, Oregon State University. The information in this pest management guide is valid for 2008. The mention of commercial products in this publication does not constitute endorsement by the Oregon State University Extension Service, nor should exclusion be interpreted as criticism of any item, form, or service. Due to constantly changing laws and regulations, the Oregon State University Extension Service can assume no liability for the suggested use of chemicals contained in this guide. Pesticides should be applied according to the label directions on the pesticide container.

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