



### SUGGESTED SPRAY SCHEDULE FOR HOME GARDEN WALNUTS 2019

Growth Stage	Description	Target Information	Chemical Sprays	Important
<b>Dormant/ Delayed Dormant</b>	Before buds swell/ In late winter just as buds begin to show first green.	Overwintering scales, aphids and mites. ➤ <b>When daytime temperature is between 40 – 45 F, with no frost forecast overnight.</b>	➤ Superior type petroleum horticultural oils. Dormant horticultural oils (Ex. Volck, Bonide, Gordons's)  <i>Finish spraying by noon to insure good dry time.</i>	An important stage for pest control.
<b>Pre bloom</b>	When catkins are partially expanded	Walnut blight ◆ Repeat spray applications may be necessary during prolonged wet springs.	◆ Copper-based fungicide (Ex. Monterey Liqui- Cop Copper Fungicidal Garden Spray, Cooke Kop- R-Spray Conc., Bonide Liquid Copper Fungicide Conc.)	See spray timing on label.  The label is the law.
<b>Spring</b>		Hatching insect pest: stinkbugs, aphid, and scale. ➤ Repeat spray applications may be necessary in warm weather.	➤ Insecticidal soap – soft bodies insects only (Ex. Safer Brand Insect Killing Soap with Seaweed Extract II [Organic]); Esfenvalerate (Ex. Monterey Bug Buster II); Azadirachtin (Ex. Safer Brand BioNEEM Multi-Purpose Insecticide & Repellent Conc [Organic])	See spray timing on label.  The label is the law.
<b>Bloom</b>	Flowers are open	<b><i>Don't apply insecticides around blooming flowers. Apply at night, if necessary.</i></b>		
<b>Summer</b>	July through August	<b>Walnut husk fly *</b> ◆ Use traps (such as those used for cherry fruit fly) to help determine when walnut husk fly is present.	➤ Azadirachtin (Ex. Safer Brand BioNEEM Multi- Purpose Insecticide & Repellent Conc [Organic]); Spinosad (Ex. Bull's-Eye Bioinsecticide); Kaolin clay (Ex. Surround At Home Crop Protectant)	<b>* Major pests of walnut</b>  Critical protection period is approx. 3 <sup>rd</sup> week in July through August.
<b>Mid – to Late Season</b>	<b>Walnut Husk Fly</b> is the most serious pest of walnuts. The adult is a fly about the size of a housefly, brown body with a yellow spot just below the area where the wings attach, and a dark triangular band at the tip of the wings. The small white worms found in infested husks of the walnut are the larvae of the husk fly. Infested husks have noticeable			

	<p>blackened areas on the outer skin of the husk. Feeding by the larvae in the husks can greatly reduce walnut kernel quality. Once the larvae mature in the husks, they drop to the ground and over winter in protective pupa cases under the soil around the tree and then reemerge as adult flies in the summer. <b>PREVENTIVE SPRAYS need to be applied as soon as the husk fly is detected</b>, so that the adult flies are controlled and egg laying on the husks is prevented. Use traps to monitor infestation. For more information see The Walnut Husk Fly, EB 0904, Washington State University.</p> <p><b>Thousand Canker Disease</b> – A new disease syndrome has emerged in the Western USA on black walnut. It is caused by a fungus carried by the walnut twig bark beetle. The disease kills both black walnut and Hind’s walnut, but the cultivated English walnut and many walnut hybrids are more resistant. The beetle doesn’t just attach twigs, but also large limbs and trunks, therefore causing thousands of cankers. <i>This disease is on our pest watch list. It has been found in SE Washington. For more information go to <a href="http://news.cahnrs.wsu.edu/article/fungus-new-to-washington-is-killing-walnut-trees/">http://news.cahnrs.wsu.edu/article/fungus-new-to-washington-is-killing-walnut-trees/</a>.</i></p>
	<p><b>Infested walnuts:</b> Remove any infested walnuts right away and place them in large, black trash bags. Leave these bags in the sun for 2 weeks to kill the worms of <b>walnut husk fly</b>, then dispose of the bags. Pick all walnuts on the ground immediately for use or disposal.</p>
<p><b>Additional Information</b></p>	<ul style="list-style-type: none"> <li>◆ <b>CAUTION</b> – Read this guide carefully. Read the product label directions carefully. Read and follow all label directions for responsible use of any pesticide. The label is the law!</li> <li>◆ <b>Aphids</b> – Seldom build up to damaging levels in home garden fruit trees. Wash them off with a stream of water from the hose, you rarely have to spray.</li> <li>◆ <b>Pesticide resistance</b> – Vary products during the season and in following seasons to minimize pest resistance.</li> <li>◆ <b>Too much fruit to handle</b> – <i>Cut down tree and purchase quality fruit for use. Help commercial orchards by maintaining good care and pest management practices for your desired fruit trees!!!</i></li> <li>◆ <b>Further information</b> – Contact WSU Chelan County Extension at (509) 667-6540 or our website at <a href="https://extension.wsu.edu/chelan-douglas/gardening/mg/">https://extension.wsu.edu/chelan-douglas/gardening/mg/</a></li> <li>◆ <b>Trade name disclaimer</b> – Use of trade names are for example purposes only. No endorsement is intended. Other appropriately labeled products containing similar active ingredients should provide similar levels of control.</li> </ul>