

## HOME ORCHARD SPRAY SCHEDULE

Insect	Material and Formulation	Amount to Use in 3 Gal Sprayer*	Spray and Time of Application	Trees to Receive Application	Days to Harvest
Scales, Aphids and Spider Mites	Superior Oil	7.6 fl oz	Apply a 2% oil solution during dormant stage before buds swell in spring.	Apple, Pear, Stone fruits	0
<b>PINK TO ½" GREEN</b>					
Rosy Apple Aphid	Greenlight Conquest Conc. Malathion	6 oz 9 Tbsp	At pink, look weekly for curling leaves around the fruit clusters and for rosy apple aphids on underside of curling leaves.	Apple	1 3
Spider Mites	M-Pede (OMRI**) JMS Stylet Oil (OMRI)	5 Tbsp 7.6 Tbsp	Apply spray to underside of leaves when you see 1 or more mites per leaf.	Apple, Pear, Stone fruits	
<b>BLOOM</b>			<b>SAVE THE BEES!! DO NOT APPLY INSECTICIDES DURING BLOOM.</b>		
<b>PETAL FALL</b> (90% of petals have fallen)					
Plum Curculio	Fruit Tree Spray mix:		Pick up fruit drops weekly and bury them to kill plum curculio larvae inside the fruit. This practice helps lessen the plum curculio population in following years.	Apples, Pear, Stone fruits	14
San Jose Scale	Sevin + Malathion + Captan	4.5-7.5 Tbsp			
Codling Moth	<b>or</b> Surround (OMRI)	0.75-1.5 lb	<b>In April and May</b> , maintain a whitewashed appearance of canopy with a spray of Surround to suppress plum curculio damage of fruit. Codling moth only attacks apple and pear.		0
Codling Moth (newly hatched larvae on apple or pear)	<u>Virus formulations</u> Carpovirusine (OMRI) CYD-X (OMRI) Virosoft CP4 (OMRI)	1-2.4 tsp 0.5-1 tsp 0.5 tsp	Apply to tree as soon as first codling moth entry hole or insect frass is seen on fruit. Apply weekly as necessary during hatch period. Keep the virus formulation refrigerated to keep the virus alive.	Apple and pear	0 0 0
Oriental Fruit Moth (newly hatched larvae)	Entrust 2SC (OMRI) <u>Formulations of <i>Bt</i> bacteria</u> Biobit HP (OMRI) Deliver (OMRI) Javelin WG (OMRI)	1-1.5 tsp 0.5-1 Tbsp 0.5-2 Tbsp 0.5-4 Tbsp	<b>Oriental fruit moth and leafrollers:</b> Apply to tree as soon as first Oriental fruit moth entry hole or insect frass is seen on fruit. Apply weekly as necessary during hatch period.	Apples, Stone fruits	7 0 0 0
<b>FIRST COVER</b> (10-14 days after PETAL FALL)					
Plum Curculio, Codling Moth	Fruit Tree Spray mix: Sevin + Malathion + Captan	4.5-7.5 Tbsp	Surround should be reapplied as often as needed to keep plants whitewashed, especially after a rain or as new foliage emerges.	Apple, Pear, Stone fruits	14
	<b>or</b> Surround (OMRI)	0.75-1.5 lb			0
<b>SECOND COVER</b> (10-14 days after FIRST COVER)					
Plum Curculio	Fruit Tree Spray mix:		Mites and scale can be suppressed with M-Pede or JMS Stylet Oil when applied at 2 to 3 week intervals starting in early May. Or, place Japanese fruit bags around pome or stone fruits when they reach 1/2 inch diameter a couple weeks after petal fall. These bags will prevent disease and insect damage to pome and stone fruits. Remove outer bag 3 weeks before harvest to develop full fruit color.	Apple, Stone fruits	14
Codling Moth	Sevin + Malathion + Captan	4.5-7.5 Tbsp			
San Jose Scale	<b>or</b> M-Pede (OMRI)	5 Tbsp			0
	<b>or</b> JMS Stylet Oil (OMRI)	7.6 Tbsp			0
	<b>or</b> Surround (OMRI)	0.75-1.5 lb			0
	<b>or</b> Japanese Fruit Bags				

\***Conversions:** 1 fl oz = 2 tablespoons (T); or 1 fl oz = 6 teaspoons (t)

\*\***OMRI** = Organic Materials Review Institute lists compounds approved for organic production.

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Insect	Material and Formulation	Amount to Use in 3 Gal Sprayer*	Spray and Time of Application	Trees to Receive Application	Days to Harvest
<b>THIRD COVER</b> (10-14 days after SECOND COVER)					
Codling Moth Plum Curculio San Jose Scale Flatheaded Apple Tree Borer	Fruit Tree Spray mix: Sevin + Malathion + Captan <b>or</b> Surround (OMRI**)	4.5-7.5 Tbsp  0.75-1.5 lb	In late April, begin applying insecticide to trunks at three-week intervals to suppress flatheaded apple tree borer.	Apple, Pear, Stone fruits	14  0
Japanese Beetle	Surround (OMRI) Sevin	0.75-1.5 lb 9 Tbsp	<b>All July</b> , maintain a whitewashed appearance of canopy with spray of Surround to suppress Japanese beetle defoliation of canopy (white clay residue on fruit can be washed off). Or, apply weekly sprays of Sevin to prevent canopy defoliation (spray top third of tree).	Apples, Blackberries, Raspberries, Cherries, Grapes, Stone fruits	0 7
<b>Spotted Wing Drosophila (New Pest in Arkansas)</b>			<b>Monitor:</b> Set up monitoring traps a couple weeks before harvest begins (see online information listed below). <b>Cultural tactic:</b> A week before harvest begins, cover fruiting plants with fine netting (0.98mm) such as floating row cover to exclude flies before they lay eggs on fruit. <b>Sprays:</b> If fly numbers are high and other methods are not providing adequate control, use insecticides registered for home use, such as spinosyns (Entrust), pyrethrins (Pyganic), malathion and carbaryl (Sevin) reapplied on 5- to 7-day intervals.	Blackberry, Blueberry, Cherry, Raspberry, Strawberry	1 3 7 0 7
	Greenlight Conquest Conc. Malathion Sevin Pyganic Entrust (OMRI)	6 oz 9 Tbsp 9 Tbsp 6-12 Tbsp 1-1.5 tsp			

### SPECIAL PROBLEM/PEST OF BLACKBERRY, BLUEBERRY, CHERRY, RASPBERRY AND STRAWBERRY

**Spotted Wing Drosophila (SWD)** is a new invasive insect pest that was detected in ripening and ripened fruit in many Midwest states, including Arkansas, in 2013. The SWD larvae feed inside and damage ripening soft-skinned fruit, especially **blackberry, blueberry, raspberry and strawberry**. See the Spotted Wing Drosophila site: <http://www.ipm.msu.edu/swd.htm> or the Arkansas SWD fact sheet: <http://www.uaex.edu/publications/pdf/FSA-7079.pdf>.

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\*\***OMRI** = Organic Materials Review Institute lists compounds approved for organic production.

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Organic Agriculture Suppliers	Address/Online URL	Phone and Fax
<b>Midwest Organic and Sustainable Education Service (MOSES)</b> (best list of organic suppliers)	P.O. Box 339, Spring Valley, WI 54767 Online: <a href="http://www.mosesorganic.org">www.mosesorganic.org</a>	Ph: 715-778-5775 Ph: 888-551-4769 Fax: 715-778-5773
<b>Organic Agriculture Resources list</b>	Dr. Kathleen Delate, Depts. of Agronomy/Horticulture, 106 Horticulture Hall Iowa State University, Ames, IA 50011 Online: <a href="http://extension.agron.iastate.edu/organicag/">http://extension.agron.iastate.edu/organicag/</a>	Ph: 515-294-7069 Fax: 515-294-0730
<b>AgBio, Inc.</b> (flathead apple tree borer trap, insect traps and lures, Pyganic)	9915 Raleigh Street, Westminster, CO 80031 Online: <a href="http://www.agbio-inc.com">http://www.agbio-inc.com</a>	Ph: 303-469-9221 Fax: 303-469-9598
<b>Ag Resource, Inc.</b> (irrigation and production supplies, soil amendments, pest controls, equipment)	35268 State Highway 34, Detroit Lakes, MN 56501 Online: <a href="http://www.agresourceincmn.com/">http://www.agresourceincmn.com/</a>	Ph: 218-847-9351 Ph: 800-288-6650
<b>NovaSource</b> (Surround Crop Protectant)	2255 N. 44th Street, Suite 300, Phoenix, AZ 85008-3279 Online: <a href="http://novasource.com/home/products/surround/">http://novasource.com/home/products/surround/</a>	Ph: 800-525-2803
<b>Gardens Alive</b> (beneficial insects, soil amendments, pet care, cover crops, Codling moth trap, pest controls: Oil-Away™ Supreme Insecticidal Oil, Surround at Home® Crop Protectant)	5100 Schenley Place, Lawrenceburg, IN 47025 Online: <a href="http://www.gardensalive.com">http://www.gardensalive.com</a>	Ph: 513-354-1482 Ph: 513-354-1483 Fax 513-354-1484
<b>Peaceful Valley Farm and Garden Supply, Inc.</b> (organic farming supplies, Codling moth trap, seeds, plants, soil amendments, pest control: Cyd-X, JMS Stylet oil, Dipel, Entrust, Pyganic, Surround Crop Protectant, M-Pede Insecticidal Soap)	P.O. Box 2209, 125 Clydesdale Court, Grass Valley, CA 95945 Online: <a href="http://www.groworganic.com">http://www.groworganic.com</a>	Ph: 888-784-1722 Ph: 530-272-4769
<b>Rincon-Vitova Insectaries, Inc.</b> (distributors of beneficial insects for controlling pests biologically)	P.O. Box 1555, Ventura, CA 93002 Online: <a href="http://www.rinconvitova.com">www.rinconvitova.com</a>	Ph: 805 643-5407 Ph: 800-248-2847 Fax: 805-643-6287
<b>Seven Springs Farm</b> (Pest Controls: Copper, Bt-Javelin, Neemix, Pyganic, Entrust, M-Pede, Surround Crop Protectant)	426 Jerry Lane NE – Check, VA 24072 Online: <a href="http://www.7springsfarm.com">http://www.7springsfarm.com</a>	Ph: 540-651-3228 Ph: 800-540-9181
<b>Wilson Orchard and Vineyard Supply</b> (6" x 7" green outside x red inside color coated paper bag for maturing/protecting apples. Also known as Japanese Fruit Bags. Sold in bundles of 100.)	1104 East Mead, Yakima, WA 98903 Online: <a href="http://www.wilsonirr.com">http://www.wilsonirr.com</a>	Ph: 509-453-9983 Ph: 800-232-1174 Fax: 509-453-1258