

Tree Fruit Pest Advisory

University of Idaho, U.S. Department of Agriculture, and Idaho counties cooperating.

Spring 2009 Issue 3

Protect Yourself

Codling Moth degree day Temperatures are indicating egg hatch on apples and pears began on the 22nd of May. (Nampa, Parma weather stations data using J.Bruners 2008 no biofix data.) Insecticides that target both larva and egg stages are recommended. Such as: (commercial)

- Altacor
- Assail
- Calypso
- Intrepid

Homeowners should use

• horticulture oil as soon as possible
With the additional application of one of the following.

- Carbaryl (Sevin)
- Esfenvalerate (Ortho Bug B Gone)
- Malathion (Malathion)
- Permethrin (Bayer Advanced Dust)
- Pyrethrin (Concern Multipurpose)
- Spinosad (Green Light)

The oil will smother unhatched eggs and the insecticide will protect the fruit

from hatched larva. Good residue coverage on your fruit is vital during the first generation. So After this initial period, growers should continue to apply the chosen material(s) at the interval provided on the label. An additional alert will be sent out via the phone alert system when Peak egg hatch critical temperatures occurs.

The peak egg hatch period is a short window of time (between 1-2 weeks) where 15-80% of all eggs hatch and the surface area of each fruit expands. With the expansion of the fruit chemical sprays loose effectiveness quickly. During this rapid egg hatching and fruit expansion, it is important that your fruit is protected with insecticide to prevent larval entry. Keep track of when your first treatment was applied and how long it lasts. If it is waning during the period of peak egg hatch, consider applying your second applica-

tion sooner (by 1-2 days).

Peak Egg Hatch will begin near Wednesday May 31, 50% hatch will be approximately June 15th.

Wooly Apple Aphid are making their way up from the root systems. Those that overwintered in the canopy have started reproduction. Monitor for these aphids by looking in root suckers at the base of the tree, in curled leaves with the green apple aphid, or on stems. Graft junctions are also a common breeding ground. Also look around the callus of old pruning scars. For commercial use and domestic purchase only: Early season applications of Ultor significantly reduce root as well as aerial populations of Wooly apple aphids.

Homeowners can hope they do not get them. Otherwise Spot treat with oil and Malathion on colonies that are found.

Degree Day post biofix (5/28/09) Look out for:

<u>Sta. Elevation</u>	<u>CM/PTB</u>	<u>50%Hatch</u>	<u>WCFF</u>
Payette(2150)	333	June 14	871
Emmett(2390)	291	June 19	758
Caldwell(2431)	300	June 17	825
Parma(2290)	333	June 16	906
Ontario(2188)	339	June 14	890
WallaWalla(1375)	283	June 21	888

- Examine lower and interior cherry leaves for bright white spores of powdery mildew
- Examine apple leaves for powdery mildew
- Examine apple, peach, and cherry leaves for new colonies of aphids forming

Codling moth virus-- an alternate option:

Marion Murray, Utah State University Entomologist

Growers looking for an organic option, or wanting to reduce the amount of conventional pesticide sprays, should consider codling moth granulosis virus. Used alone, this biocontrol option will not give great control, but it could be used alternatively with oil or with Entrust (spinosad) to remain organic, or with conventional pesticides to reduce chemical sprays.

Codling moth virus can be purchased online as Cyd-X, Virosoft, or Carpovirusine. It is a naturally occurring virus that is very toxic to the larvae. In order to work, the virus must be ingested (like spinosad). Codling moth larvae are on the surface of the fruit for a very short amount of time, so thorough coverage is a must. Also, it breaks down easily and must be reap-



plied every 5-7 days. Entomologists at Michigan State University (MSU) recommend that the best approach for using the virus is through frequent applications of a low rate.

Growers using conventional insecticides might want to consider replacing

one or two sprays with a virus spray. Not only will this reduce pesticide inputs into the environment, but also help to prevent resistance.

MSU provides the following management options:

1. Target the first generation strictly with CM virus. Most fruit that is successfully attacked by larvae falls to the ground early, and is not part of the harvested crop (although larvae that survive to pupation emerge in a later generation).
2. Use a chemical insecticide (oil or Entrust for organic) for your first spray of each generation (at 1% egg hatch) and then switch to the codling moth virus for the second spray, when there are more eggs. Another rotation could follow, or you could apply the virus weekly for the remainder of the generation.

Western Cherry Fruit Fly Tony McCammon

WCFE emergence should occur this weekend, sexually mature flies should be present by 1110 DD (in 7 days). Sprays need to be on before sexually mature flies are caught.

Each female can lay from 50 to 200 eggs in a 3-week period. The eggs hatch in 5 to 8 days, and the larvae burrow towards the pit of the fruit where they are unreachable by most pesticides. When fully developed, 10 to 21 days after hatching, they bore their way out of the cherries and drop to the ground. Within a few hours they burrow into the soil to pupate until next year.

Management:

Traps for WCFE should be placed in the orchard immediately and monitored for

presence of flies. Flies require about 150 DD after emergence to become sexually mature and lay eggs. Sprays for flies should be applied before egg laying adults are present. Spray intervals are based on the residual of the material used and its PHI interval.

Adults are weak migrators and will travel no further than necessary to find a host tree. For this reason, infestations in a region tend to be spotty. However, infestations within an orchard, where the trees are close together, can spread rapidly.

Homeowners, Cherries are plentiful on sweets and tarts, but they are still small and green. Cherry fruit fly CAN NOT penetrate the skin and lay eggs on green fruit. Therefore, materials should be applied only after the first few fruits have developed a salmon blush color over the yellow.



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WSU Pest Management Transition Project Newsletter

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WSU Decision Aid System

Spray Materials - Commercial Applicators

NOTE: If your trees are in bloom, we do not recommend applying any pesticides unless you are controlling fire blight with antibiotics. Although it is OK to use “softer” materials such as Bt or spinosad during bloom, we still recommend either: waiting until the petal fall stage or applying at dawn or dusk when pollinators are not active.

Target Pest	Host	Chemical	Example Brands	Amount per acre	REI	Comments
Codling moth	apple, pear	hort. oil acetamiprid deltamethrin methoxyfenozide phosmet spinetoram thiacloprid rynaxypyr codling moth virus	variety Assail Battalion Intrepid Imidan Delegate Calypso Altacor Virosoft, etc	see lable 3.4 oz 7-14 oz 16 oz 5.33 lbs 6-7 oz 4-8 oz 3.5-4.5 ---	12 h 12 h 4 h 5 d 4 h 12 h ---	<ul style="list-style-type: none"> for all products, ensure good coverage for effective control hort. oil works on eggs only codling moth virus must be applied every 7 days Altacor and Delegate have shown to have good efficacy
Powdery mildew	apple	potassium bicarbonate myclobutanil trifloxystrobin triflumizole fenarimol boscalid/pyraclostrobin	Kaligreen Rally Flint Procure Rubigan Pristine	2.5-3 lb 5 oz 2-2.5 oz 8-16 oz 12 oz 14.5-18 oz	4 h 24 h 12 h 12 h 12 h 12 h	apply starting at open cluster stage
Woolly apple aphid	apple	spirotetramat diazinon dimethoate endosulfan	Ultor Diazinon Dimethoate Thionex	12 oz 4 lb 2.67 pints 3-4 lb	24 h 4 d 48 h 4 d	Ultor: apply once; petal fall is optimal timing
Peach twig borer	peach, nectarine	Bt spinetoram spinosad methoxyfenozide endosulfan phosmet	Dipel, Foray Delegate Success, Entrust Intrepid Thionex Imidan	see label 4.5-7 oz see label 8-16 oz 4 lb 4 lb	4 h 4 h 4 h 4 h 4 d 4 d	begin sprays according to spray timing table on previous page and keep fruit protected Delegate: apply 7 day intervals
Green peach aphid	peach, nectarine	acetamiprid imidacloprid	Assail Provado	8 oz 4-8 oz	12 h 12 h	
Lygus bug	peaches	azadirachtin beta-cyfluthrin cyfluthrin pyrethrin	Aza-Direct Baythroid Tombstone Pyganic	1-2 pints 2-2.4 oz 2-2.4 oz 4.5-18	4 h 12 h 12 h 4 h	OMRI certified organic restricted use product restricted use product OMRI certifiec organic
Brown mite	all fruit trees	abamectin acequinocyl bifenazate etoxazole fenpyroximate pyridaben spirodiclofen	Agri-Mek Kanemite Acramite Zeal Fujimite Nexter Envidor	10-20 oz 21-31 oz .75-1 lb 2-3 oz 32 oz 3.5-10 oz 16-18 oz	12 h 12 h 12 h 12 h 12 h 12 h 12 h	best used before mid-June only one application/season two applications/season one application/season

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I will add for Western Cherry Fruit Fly a spray of Spinosad GF-120 Bait - Apply to alternate rows with special auxiliary applicator; dilute with no more than 3 quarts of water per acre. Re-apply after rain. More information on WCFF in the next advisory. Also Check out the Payette County Website for more information.

Homeowner Pesticide Recommendation. Provided by Marion Murray of Utah State University

Target Pest	Host	Chemical	Example Brands	Comments
Codling moth	apple, pear	Conventional carbaryl malathion permethrin bifenthrin Soft/organic spinosad codling moth virus	Sevin, Bonide Fruit Tree Spray, etc. Malathion Adams Yard Spray, Ortho Basic Solutions Yard and Garden, Bonide Eight RTU, Hi Yield Permethrin Concentrate, Spectracide Ortho Bug-B-Gone Green Light, Gardens Alive Bull's Eye Virosoft, Cyd-X	<ul style="list-style-type: none"> • Rotate among chemical classes to prevent resistance. • Most are applied every 7-14 days, but read the label. • codling moth virus is an organic option, but can only be purchased online.
Powdery mildew	apple	Conventional bayleton propiconazole Soft/organic lime sulfur neem oil potassium bicarbonate	Lilly Miller Ferti-Lome Bonide Garden Safe Kaligreen	do not apply lime sulfur when temperature is over 75 degrees F
Woolly apple aphid	apple	Conventional carbaryl	Sevin	apply only as needed; thorough coverage essential
Green peach aphid	peach, nectarine	Conventional malathion Soft/organic pyrethrin	Bonide, Malathion Pyganic	start with a single application
Peach twig borer	peach, nectarine	Conventional carbaryl malathion permethrin bifenthrin Soft/organic spinosad kaolin clay	Sevin, Bonide Fruit Tree Spray, etc. Malathion Adams Yard Spray, Ortho Basic Solutions Yard and Garden, Bonide Eight RTU, Hi Yield Permethrin Concentrate, Spectracide Ortho Bug-B-Gone Green Light, Gardens Alive Bull's Eye, Ferti-Lome Borer, Bagworm, etc. Spray Surround	<p>Do not spray until it is time in your area (see spray timing table)</p> <p>Most are applied every 7-14 days, but read the label.</p> <p>Surround: works to repel, not kill insects; only moderate control</p>

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