UNIVERSITY OF IDAHO **EXTENSION UPDATE**

Fruit Pest Advisory

University of Idaho, U.S. Department of Agriculture, and Idaho counties cooperating.
Spring 2013 Issue 2

Protect Yourselves

Fire Blight and **Codling Moth** are this weeks headlines. According to temperature models (Nampa, Parma, and Twin Falls temperatures) Both pests need management considerations in the upcoming weeks.

Fire Blight infections on apples and pears through this weekend are extremely likely if flowers are open. Numerous serious blight outbreaks have occurred in past years when degree hours near or exceed 70 degrees and blossoms are wetted by rain, 2+ hours of dew or light irrigation. The risk of severe damage due to infection increases in later stages of primary bloom and petal fall until late bloom is finished, and may return any time when secondary blossoms are numerous. The potential severity of infection is increased as a series of high risk days occur as is the case this week.

For antibiotic materials: apply within 24 hours before or after flowers are wetted if the high risk threshold is exceeded

- Antibiotic (Agri-Mycin)
- terramycin (Myco-Shield)
- Biological (Blightban)

Codling Moth degree day Temperatures are indicating egg hatch on apples and pears will begin on or around the 20th of May. (using weather stations data using J.Bruners 2008 no biofix data.) We are still a few weeks out for most Idaho locations. Insecticides that target both larva and egg stages are recommended 10 days before egg hatch. Such as: (commercial) Altacor, Assail, Calypso, Intrepid.

(Homeowners) horticulture oil

With the additional application of one of the following 5 days after egg hatch.

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

Degree Day "No biofix" (4/29/13)

Station (Elev.)	°Days	1% Hatch
Southwest		
Parma (2309)	227	18-May
Weiser (2080)	223	18-May
Boise (2719)	205	20-May
Nampa (2713)	190	22-May
Fruitland (2132)	160	24-May
Southern		
Mt. Home (2992)	235	14-May
Hagerman (3197)	185	23-May
Twin Falls (3921)	140	4-Jun
Rupert (4154)	123	6-Jun
Shoshone (3950)	122	2-Jun
Eastern		
Pocatello (4605)	127	6-Jun
Idaho Falls (4709)	76	14-Jun
Rexburg (4870)	58	19-Jun

Look out for:

- Peach Twig Borers emerge at bloom and migrate to feed on buds. Look for flagging and sample to determine damage levels. Set out pheromone traps at 315°D.
- Codling Moth eggs are being laid for most of SW Idaho. They are laid at 225°D. Use ovicides between 225-325°D
- SW—Cherry mildew infection pressure is up; spray sulfur, potassium bicarbonate, or other registered product every 14-21 days.
- Trap leafrollers to determine population levels between 180-280°D. If treatment is needed apply control before 370°D.

BAT'S vs MOTHS
Tony McCammon

Earlier this spring during a fruit grower meeting I was attending, a participant brought up the use of bats as a possible beneficial feeder on codling moth populations. This was an interesting question that I had never thought of before. Thus, began a study in researched journals and Extension publications for more documentation on such an idea. You might find my results of this search interesting, if not amusing.

Bats are good for growers because they consume their body weight in insects each night, but in recent years there's been a decline of bats due to a loss of roosting sites. By providing bat houses, growers can help reverse this trend and simultaneously reduce pest populations to more manageable levels. To what extent bats control pest populations is not really known, but there is research under way to make this determination. Multiple projects in Colorado, Oregon, and California in particular have projects underway. One of those who is leading the way is Rachel Long, University of California Cooperative Extension. She is using Bat guano and DNA analysis to determine what is on the bats menu. Many bat species have quite specific diets. Some will begin to target only one type of insect, according to Long.

Bats are the original mating disruptor. Studies indicate that moths avoid areas where bats are hunting. They also will disrupt their search for mates if they sense bats getting near. Long's results are positively showing that bats diet include codling moth. They will also eat adult fruit worms, leafminers, fruit moths, leafrollers, and leaf hoppers, stinkbugs, and beetles. Whereas, most of our chemicals do not have any effectiveness on adults, Bats may have a place in providing some pressure reduction. In addition they will eat 1,000 mosquitoes every hour during swarming season. A very nice benefit. But back to codling moth. Here are the extrapolated numbers. A little brown bat weighs 25 grams. 38 Codling moths weigh one gram. Studies show that a bats diet consists of at least 35% moths. Bats eat their own body weight each night. If the majority of the moths flying in the orchard are codling moth.....25grams/bat x 38 codling moth/gram x 35% moth diet = 333 codling moths per night...per bat.

Many Educators who deal with biological or beneficial methods of integrated pest management programs will acknowledge that these type of methods are not the cure-all, end-all but that they are a piece to the puzzle of the overall management of codling moth. In other words, Bats in no sense of the word will give you 95% clean apples at the end of the year. But perhaps, integrated into a program consisting of pheromone disruption, virus, and a good ovicide would bring the population levels low enough to make these methods more effective.

If you build space for them they will come. First off, they love orchards! Occupancy rates in a research project where bat houses were used in orchards, pastures, row crops, and farmland suggested that bats were more likely to occupy orchards and boxes had occupancy 83% of the time. Bats have basic needs similar to my own. Water source, food source, and a condo. The bat house must be in a warm location (85-100 F), high in the air (10 foot minimum), the larger the better, well sealed, and dark in color. If you are interested in building or buying a bat house for your orchard visit www.batcon.org.

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WSU Pest Management Transition Project Newsletter

Marion Murray Utah State University Extension IPM Project Leader WSU Decision Aid System

Coryneum Blight
Marion Murray

Coryneum blight (also known as Shot-hole disease) infections are showing up in orchards now, and in some areas, are worse than usual due to the cool, wet spring.

Coryneum blight is caused by a fungus that overwinters in buds, causing small gummy cankers. From there, it spreads to leaves and later, to developing fruit. Leaf infection causes small round holes, with the center of the lesion sometimes barely attached.

On fruit, lesions vary from dark colored warts to sunken lesions (depending on time of infection). Look for developing lesions holes in the leaves) and treat if necessary to protect fruit for later in the season.

Peaches in most areas are at shuck-split stage, and at this timing, growers can use Bravo chlorothalonil, Daconil for residential use), Abound, Captan, Ziram, or Pristine.

An application of copper at 50% leaf drop in the fall is an excellent option for control of coryneum blight.

Honey Bees our best pollinators and the pesticides that kill them

Extracted from Factors Affecting Bee Pollination of Tree Fruits on the WSU Decision Aid System

Pesticides applied during the bloom period can poison honeybees causing death, lack of foraging, abnormal behavior, poor brood development or dead broods, and queenless hives. Insecticides primarily responsible for bee poisoning are:

- **Organophosphates** (such as acephate, azinphos-methyl, chlorpyrifos, diazinon,dimethoate, malathion, methamidophos, and methyl parathion)
- **N-methyl carbamates** (such as carbaryl and carbofuran)
- **Neonicotinoids** (such as clothianidin, imidacloprid, and thiamethoxam)

Many pyrethroid insecticides are also highly toxic to bees, but some pyrethroids (such as esfenvalerate and permethrin) are repellent to bees when used under arid conditions prevalent in eastern Washington, eastern Oregon, and Idao.

Most bee poisoning incidents occur when insecticides are applied to bee-pollinated crops or blooming weeds during the bloom period. Beekeeper-grower cooperation is the most effective way to reduce bee poisoning. The underlying cause of most bee poisoning incidents is a lack of awareness, rather than an intent to do harm. The pest control program nearly always can be modified so that little or no bee poisoning occurs, without undue cost or inconvenience to the grower. The orchardist should have the beekeeper remove the bees soon after petal fall begins to reduce the hazard of bee poisoning from pesticide sprays.

http://das.wsu.edu/legacy/4.1/dls/pnw518-reduce%20bee%20poisoning%201999.pdf

Bee Toxicity Class			
I	**I**	**III**	**IV**
Hazardous at any time. Do not apply on blooming crops and weeds.	**Not hazardous if applied in late evening except during high temperatures *1,*2**	**Not hazardous if applied in late evening or early morning except during high temperatures *1,*3**	**No hazardous to bees at any time on blooming crops**
Actara (thiamethoxam) Admire (imidacloprid) Ambush (permethrin) Asana (esfenvalerate) Belt (flubendiamide) Captan (captan) Clutch (clothianidin) Danitol (fenpropathrin) Diazinon (diazinon) Dimethoate (dimethoate) Envidor (spirodiclofen) Guthion (azinphos methyl) Imidan (phosmet) Lorsban (chlorpyriphos) Malathion (malathion) Movento (spirotetramat) Pounce (permethrin) Provado (imidacloprid) Rimon (novaluron) Rovral (iprodione) Sevin (carbaryl) Supracide (methidathion) Ultor (spirotetramat) Warrior (lambdacyhalothrin)	Agri-Mek (abamectin) Carzol (formetanate hydrochloride) Confirm (tebufenozide) Epi-Mek (abamectin) Malathion (malathion) Thionex (endosulfan) Vydate 2L (oxamyl)	Acramite (bifenazate) Assail (acetamiprid) Avaunt (indoxacarb) Aza-Direct (azadirachtin) Battalion (deltamethrin) Calypso (thiacloprid) Delegate (spinetoram) Entrust (spinosad) GF-120 (spinosad) Lannate (methomyl) Neemix (azadirachtin) Nexter (pyridaben) petroleum oil Proclaim (emamectin benzoate) PyGanic (pyrethrins) Pyramite (pyridaben) Success (spinosad) TriStar (acetamiprid)	Altacor (chlorantraniliprole) Apollo (clofentezine) Bacillus thuringiensis Beleaf (flonicamid) Centaur (buprofezin) Cyd-X (CM granulosis virus) Dimilin (diflubenzuron) Esteem (pyriproxyfen) Ethrel (ethephon) Fruitone (NAA) FujiMite (fenpyroximate) Intrepid (methoxyfenozide) K-Salt Fruit Fix (NAA) Kanemite (acequinocyl) Kelthane (dicofol) M-Pede (potassium salts of fatty acids) Monterey Sucker Stopper Concentrate (NAA) Omite (propargite) Onager (hexythiazox) Rex Lime Sulfur (lime sulfur/calcium polysulfide) Savey (hexythiazox) Sulforix (lime sulfur/ calcium polysulfide) sulfur, wettable Surround (kaolin clay) Thiolux (flowable/ micronized sulfur) Vendex (fenbutatin oxide) Zeal (etoxazole)
*1. If temperature is below 50°F all day, then it is safe to spray at any time of day. *2. If temperature is above 50°F, do not spray until after 7 p.m. *3. If temperature is above 50°F, do not spray until after 7 p.m., and stop spraying at 7 a.m.			

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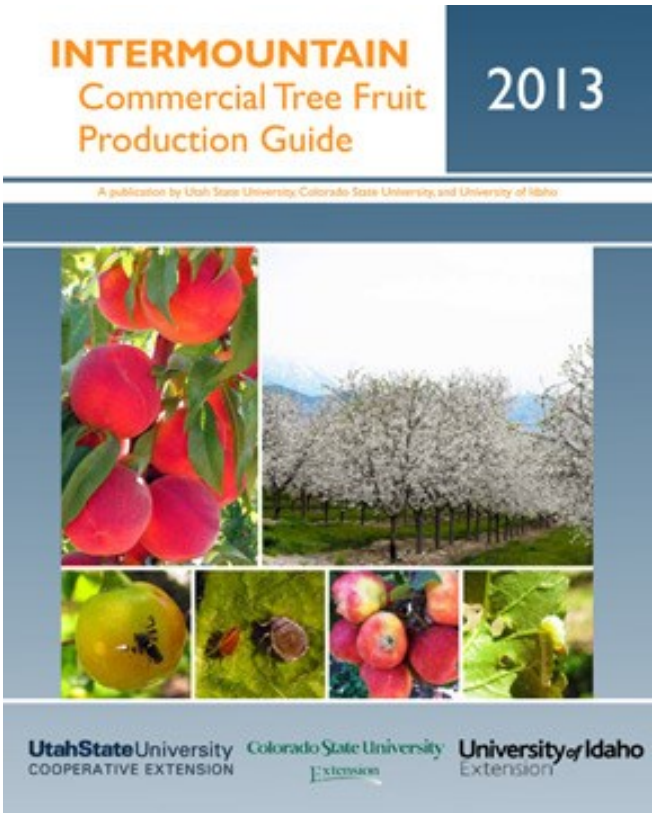
TwinFallsCounty

ALWAYS read and follow the instructions printed on the pesticide label. The pesticide recommendations in this UI publication do not substitute for instructions on the label. Pesticide laws and labels change frequently and may have changed since this publication was written. Some pesticides may have been withdrawn or had certain uses prohibited. Use pesticides with care. Do not use a pesticide unless the specific plant, animal, or other application site is specifically listed on the label. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

Trade Names--To simplify information, trade names have been used. No endorsement of named products is intended nor is criticism implied of similar products not mentioned.



www.intermountainfruit.org

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