

Tree Fruit Pest Advisory

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

Spring 2011 Issue 2

Protect Yourself

The beginning of May is usually quiet and very little is of concern as it pertains to pests. If you sprayed a delayed dormant oil things should be that much quieter. Preparation and monitoring should be continued for aphid, pear psylla, and cat facing insect. Pheromone traps can be set out this week for Codling moth. Peach Twig borer traps can be set out by the end of the month.

Major concerns this month are Fire Blight and freezing temperatures. Cougar blight modules show a "low to very low" probability of infection for the next 7 days. In addition, it looks as if Spring has officially arrived. Temperature forecasts do not indicate anything in the near future to worry about.

Peach Twig Borer – Organic

While trees are in bloom, and before shoots have started to elongate, peach twig borer larvae are exposed, feeding on leaf tissue. At that time, they can be targeted with a spray of *Bacillus thuringiensis* (Bt). Bt is a bacterium that must be consumed by the insect to be effective. It paralyzes the digestive system, so the insect basically starves. The re-

sidual product lasts about 3-5 days on the leaf surface. A Bt treatment is just one step in reducing peach twig borer populations.

Bt products can be stored for 2-3 years in a cool, dry location. Liquid formulations will not last quite as long. Once the concentrate is mixed with water, it should be used within 12 hours.



UC Statewide IPM Project
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Degree Day "No biofix" (5/3/11)

Look out for:

<u>Sta. Elevation</u>	<u>CM/PTB</u>	<u>1% Hatch</u>
Payette(2132)	126	May29
Emmett(2390)	105	June 2
Nampa(2635)	103	June 2
Parma(2290)	112	June 1
Ontario(2188)	110	May30
Boise (2716)	125	June 6
Mt Home (3002)	47.5	June 8
WallaWalla(1407)	162	May25

- Start trapping and monitoring for codling moth they will begin showing up around May 6.
- Look for purple lesions on peaches and apricots. Coryneum blight lesions spray timing is a shuck split.
- Peach twig borer emerge at bloom and migrate upwards to feed on buds and young shoots. If you missed pre-bloom sprays, wait until egg hatch.

Frost Damage

Adapted from work done by Marion Murray of USU.

Cold temperatures between April 18 and 22 dropped below 28 degrees. And some recorded as low as 24 degrees.

As buds develop on fruit trees, they become more susceptible to injury by cold temperatures. These temperatures may have resulted in about a 25% loss of flowers or buds, depending on the tree and what stage it is in. Keep in mind that even a 50% loss is not disastrous since a 25% fruit set can be adequate on most trees.

Sometimes a freeze will damage only a part of the flower or leaves, and the developing tissue become deformed. Buds occurring lower in the tree canopy are more susceptible to damage or death than those higher up.

After a freeze, wait until the temperatures have warmed significantly before trying to determine if buds have been damaged. Dead tissue will turn black or brown. Split the flower or bud down the middle and look for brown or black plant tissue within the floral cup. Healthy tissue is greenish or creamy yellow in color.

Research from Washington State University shoes the critical temperatures for fruit trees according to the stage of development. The temperatures are based on the percent of buds killed after one-half hour of exposure. See tables. Photos courtesy of H. Larsen Colorado State University publication no. 7.426 "Evaluating Tree Fruit Bud and Fruit damage from Cold"



Lower left photo: Apple buds cut to show cold injury damage; arrows show pistil

tissues. A. Longitudinal section (left flower killed). B - D: Cross-sections of flower buds. B. Six live flowers (King bloom in center); C: King bloom pistil killed, side blooms still alive; D: King bloom and two side blooms killed, two top side blooms

Crop	Stage of Development	10% Kill	90% Kill
Apple	Half-inch Green	23	15
	Tight Cluster	27	21
	First Pink	28	24
Apricot	Full Bloom	27	22
	Petal Fall	27	24
Peach	First Bloom	26	21
	Full Bloom	27	24
Pear	Green Cluster	24	15
	White Bud	25	19
Sweet Cherry	Tight Cluster	26	17
	White Bud	27	24
	First Bloom	28	25
Tart Cherry	Bud Burst	26	22
	Tight Cluster	26	24

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WSU Pest Management Transition Project Newsletter

WSU Decision Aid System

Cold Weather Pollinators

By Tony McCammon

With many blossoms open and temperatures cold many questions can arise to the amount of pollination that is taking place.

In General, Honey bees begin to fly when air temperatures is around 55 degrees F. Any colder and they are more comfortable snuggling in clusters in their hive. Hives located in direct sun may get some flight started when it is a bit cooler near or just below 55. This being the case when most of our cherries, peaches, and nectarines were blooming a couple week ago very few bees were working.

Full foraging activity occurs at 70 degrees F, this drops off dramatically to 50% reduction of



activity at 60 degrees. At 55 I assume a 90-95% reduction in pollinating bees in the orchard.

North Carolina Extension reports that bees do not typically fly if the wind speed is over 12 mph. Even 3-5 mph winds will effect the foraging of the top most blossoms and keep bees from flying over hedgerows.

Native pollinators such as the blue orchard bee are known to fly in lower temperatures,

cloudy, and even rainy conditions.

Walter Sheppard, of the WSU Tree Fruit Research Center, is studying A honey bee subspecies from Kazakhstan, the 'homeland of apples', and has seen foragers returning to hives with pollen in the early morning with temperatures at 51 degrees F. His work on the bee states that he sees it as a potential to curb the effects of our bee collapse in North America. However, APHIS has not allowed the subspecies because it is considered a 'new' importation and is being held to higher scrutiny. Environmental impact studies and other regulatory processes are being investigated.

Wilbur-Ellis Company Report:

As it looks now, and to the surprise to few, Codling Moth biofix will be well behind recent years. According to the formulas it now looks like the dates will be around May 12 or 13 for all sites.

San Jose Scale has been an increasing problem in some blocks the past few years and there is still a window of opportunity to apply Esteem to control the first generation. If scale is a concern, please con-

tact me for specific recommendations.

Bloom to petal fall is the time when we have been seeing Rosy Aphids show up in prior years. An early application of insecticide just after petal fall and when the bees have been removed can pay dividends if economic thresholds have been approached in some blocks.

After a heavy mildew pressure year in 2010 it looks like there is a significant carryover of mildew infection in susceptible apple varieties. It seemed cold at times this winter but not cold enough to knock out the

infected buds. There are signs of early infections on new growth so keep a tight mildew program so the fruit stays clean. Early programs are a key to clean fruit even if there are some visible signs of mildew on the foliage.

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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.

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