



Tree Fruit IPM Advisory: May 23rd, 2006

Past IPM advisories are archived at:

<http://extension.usu.edu/cooperative/ipm/index.cfm/cid.610/>

News Alert!

Western cherry fruit fly adults were caught at the Kaysville Research Farm on Monday, May 22nd. Place yellow sticky traps for cherry fruit fly monitoring now. Codling moth and peach twig borer moths have emerged in most northern Utah locations. Predictions for first cover spray dates are now available (see below). Codling moth spray dates (timed for 1% of eggs hatched) have been reached in Box Elder, Salt Lake, and Utah Counties (some sites). The cooling weather trend projected for this week will slightly slow down upcoming spray dates.

Degree-day and predicted spray date timings are being updated twice per week (Mondays and Fridays). Visit the Orchard Spray Timing Tables for the latest updates at: <http://extension.usu.edu/cooperative/ipm/index.cfm/cid.645/> (Select 1st generation CM or PTB in the right-side column).

Cherry powdery mildew has been detected at the Kaysville Research Farm. Look for the powdery mycelium in small lesions on leaves of sweet and tart cherry trees.

Cherry powdery mildew is appearing in cherry blocks at Kaysville and probably elsewhere and so you should begin applications to control the disease. Chemicals listed to control cherry mildew include: Abound, Cabrio, Elite, Flint, Microthiol, Orbit, Pristine, Procure, Quintec, Rally, Rubigan, and light oils (see list below). Applications of any chemical should be followed at a later date with another compound with a different mode of action. I also want to remind folks that the sulphur applications can reduce beneficial mite populations and could lead to excessive reduction of predatory mites (beneficials) that control pest mites later in the season. Compounds followed by an asterix (*) are known to have resistance in the mildew population so a different chemical type may be a better choice. The strobilurins are excellent to control mildew and Pristine is actually a mixture two fungicides (pyraclostrobin and boscalid), one is a class 7 and other is a class 11 fungicide. Resistance concerns are less with that compound but avoid excess use of any one chemical type in the list. As always,

read and follow instructions on chemical labels in accordance with the laws governing their use. With the exception of the sulfur and oil products listed, labels for these compounds can be found at www.greenbook.net as well as on the www.cdms.net websites for more information.

<u>Chemical</u>	<u>Chem type</u>	<u>Control Efficacy</u>	<u>Resistance likely</u>
Abound	strobilurin	Medium	High
Cabrio	strobilurin	Excellent	High
Flint	strobilurin	Excellent	High
Pristine	strobilurin	Excellent	High
Elite	DMI(triazole)	Good	High
Orbit	DMI(triazole)	Good	High
Rally	DMI(triazole)	Good*	High
Rubigan	DMI(pyrimidine)	Good*	High
Procure	DMI(imidazole)	Good	High
Microthiol	Sulphur(flowable)	Good	Low
Wetable sulfur	Wetable powder	Good	Low
Superior oil	Oil	Excellent	Low
Stylet oil	Oi	Excellent	Low
Quintec	Quinoline	Excellent	High

Fire blight shoot strikes are becoming a problem at this time of the season. Remove shoot and blossom strikes as soon as as they are evident using hands to break out the branch or twig that is infected. Use of pruning shears or loppers are not necessary for removal of shoot and blossom strikes. Avoid heavy pruning early in the season to avoid promoting succulent shoot growth. Fertility to promote tree health is required but excessive nitrogen fertility will favor succulent shoot growth and should be avoided. Succulent growth favors the development of shoot blight infections. Remove suckers to avoid succulent shoot infections near the roots, remove by hand breaking them.

*******Insect Advisory*******

DEGREE-DAY (DD) ACCUMULATIONS:

CODLING MOTH

<u>Location</u>	<u>DDs Since Biofix</u>	<u>Projected Onset Date for Larval Emergence</u>
Utah County		
Alpine	160 (Biofix: May 13)	May 27
Genola	278 (Biofix: May 2)	May 20
Payson	253 (Biofix: May 2)	May 20
Provo	155 (Biofix: May 8)	May 26
Santaquin	224 (Biofix: May 6)	May 22

West Mountain	225 (Biofix: May 4)	May 22
Salt Lake County		
Salt Lake City	280 (Biofix: May 6)	May 20
Davis County		
Kaysville	216 (Biofix: May 10)	May 23
Box Elder County		
Perry	287 (Biofix: May 1)	May 19
Cache County		
North Logan	167 (Biofix: May 10)	May 28
Logan	186 (Biofix: May 5)	May 27

Projected onset dates for larval emergence correspond to when egg hatch is predicted to begin (at 220 DDs after biofix) based on biofix dates and temperatures. Cover sprays to prevent larvae from entering fruit should be applied by this date.

PEACH TWIG BORER

<u>Location</u>	<u>DDs Since Biofix</u>	<u>Projected Onset Date for Larval Emergence</u>
Utah County		
Genola	202 (Biofix: May 12)	May 23
Lincoln Point	154 (Biofix: May 14)	May 27
Payson	190 (Biofix: May 12)	May 26
Provo	164 (Biofix: May 7)	May 26

Davis County		
Kaysville	89 (Biofix: May 18)	Jun 1

Projected onset dates for larval emergence correspond to when egg hatch is predicted to begin (at 220 DDs after biofix) based on biofix dates and temperatures. Cover sprays to prevent larvae from entering fruit should be applied by 220-400 DD after biofix (use the earlier timing if population pressure is high at your location or go with mid to later timing if population pressure is low; also use past experience for your site and recommended timing for the insecticide you choose in relation to PTB egg hatch to guide your application timing).

WESTERN CHERRY FRUIT FLY

<u>Location</u>	<u>DDs Since March 1</u>	<u>Projected Date to Place Traps</u>
Utah County		
Alpine	835	Place traps now
Genola	965	First adults expected
Lincoln Point	857	Place traps now
Payson	871	Place traps now
Provo	908	First adults expected
Sanataquin	898	First adults expected
West Mountain	848	Place traps now

Salt Lake County		
Salt Lake City	---	Place traps now
West Valley City	---	Place traps now
Davis County		
Kaysville	880	Place traps now
Pleasant View	901	First adults expected
Box Elder County		
Perry	898	First adults expected
Cache County		
North Logan	581	May 27
Logan	654	May 24

Yellow sticky traps for cherry fruit fly should be placed at 700 DDs after March 1 and first adults are expected on traps from 900-950 DDs.

REQUEST FOR HELP WITH BIOFIX INFORMATION: Thank you to all who have sent in biofix data this spring! For anyone setting and monitoring insect traps (for codling moth, peach twig borer, cherry fruit fly, greater peachtree borer) in orchards this year, please send in your biofix dates (dates of first insect catch) by email (respond to this email message). Include your location, insect species, and biofix date. This will help us with determining insect biofix dates for a wider range of locations. Thank you.

CODLING MOTH (Apple and Pear): Spray dates to target the beginning of larval emergence were last Friday in Box Elder County and Saturday in Salt Lake County and warmer Utah County locations. Spray dates for other northern Utah locations are predicted for this week and next week (see Codling moth table above).

Codling Moth Control:

Recommendations for Commercial Orchards

Larvicides: Kill young larvae as they hatch from eggs and before they enter the fruit.

Guthion

Imidan

Assail

Intrepid

Calypso

Danitol

Codling moth granulosus virus

Ovicides: Kill the eggs before they hatch. Need to apply before and/or during the egg-laying period (50-200 DDs after biofix depending on insecticide).

Rimon

Esteem

Intrepid
Assail
Calypso
Horticultural mineral oil

Remember to buffer spray water where necessary and follow the label directions closely. Uniform coverage is crucial. Tank-mixing 1% (or less) of oil will likely increase the efficacy of most materials. Where growers have had a history of insecticide resistance, consider tank-mixing materials with different modes of action.

Recommendations for Home Orchards: Homeowners can use a 1% oil spray (such as SunSpray Ultra-Fine) with esfenvalerate (Ortho Bug B Gon), carbaryl (Sevin), malathion, spinosad (Ferti-lome formulation), Codling moth virus (Cyd-X, Virusoft, Carpovirusine), pyrethrin, pyrethrum, azadirachtin (AZA-Direct), or Bt (Dipel, Thuricide). Bagging fruit to keep larvae out after fruit is at least ½ - ¾ “ inches in diameter and placing cardboard bands around trunks to trap cocooning larvae can also suppress injury. Go to the USU Extension Home Orchard Pest Management Guide for more detailed management information: <http://extension.usu.edu/files/publications/homeorchard2006.pdf>

In terms of DDs, another critical “benchmark” for codling moth is 340 DDs. This is the point at which egg-hatch (larval emergence) accelerates tremendously. Approximately 70% of the 1st generation can be expected to hatch within the 340-640 DD period. This relatively short 320 DD window of time will see the greatest amount of pest pressure. Multiple applications may be necessary for the 1st generation, depending on the severity of the codling moth infestation.

PEACH TWIG BORER (Peach, Nectarine, and Apricot): Peach twig borer moths have been caught in Davis and Utah County orchards. Like codling moth, egg-hatch for twig borer begins at 220 DDs following the biofix. However, most peach growers shoot for 300-400 DDs for their first spray. The dates provided in the online phenology tables are the projected FIRST EMERGENCE, not the 300 or 400 DD timing. Growers are encouraged to time their sprays based on their PTB population pressure, the type of insecticide they’re using, and the number of DDs accumulated in their growing region. Please visit the PTB phenology table to check the projected developmental status of PTB in your area:
<http://extension.usu.edu/cooperative/ipm/files/PhenologyTables/2006/PTB.5-22-06.htm>.

To view pictures of what PTB infestations look like, visit the Extension Photo Gallery:
<http://eureka.ext.usu.edu/admin/plugin.cfm?id=2&gid=21>.

Projected dates for onset of larval hatch from eggs are for this week and next (see Peach Twig Borer table above). Select a spray timing relative to initiation of larval emergence appropriate for your situation (see discussion above).

Insecticides effective for PTB:
Imidan

Bt-kurstaki
Spinosad (Success, Entrust)
Intrepid
Asana
Warrior
Proaxis
Endosulfan (Thiodan, Thionex)
Guthion
Sevin
Diazinon
Permethrin (Pounce, Ambush)
Malathion

WESTERN CHERRY FRUIT FLY (Sweet and tart cherry): The first adults of the season were found on yellow sticky traps in Kaysville on Monday. It is time to put out yellow sticky traps for cherry fruit fly in all locations except Cache County and other cooler sites in northern Utah. First flies on traps are expected at 900-950 DDs after March 1 (see Western Cherry Fruit Fly table above).

The first cherry fruit flies of the season often emerge before fruit is soft enough for them to insert their eggs under the fruit skin. Based on numerous years of observation in Utah, fruit is not susceptible to egg-laying from cherry fruit fly females until it changes from yellow to a salmon or blush color. When earliest maturing fruit on the tree takes on a blush (sunny side of fruit), protect cherries with an insecticide application. Based on research, adult females are not ready to lay mature eggs until 7-10 days after first catch of the season. Use these two pieces of information for your location to initiate insecticide sprays to protect fruit from cherry fruit fly.

Insecticides effective for WCF:

- GF-120 NF (apply with an electric pump sprayer mounted on a 4-wheeler; reapply every 7 days; excellent adulticide; not rainfast)
- Provado (moderate adulticide, excellent larvicide, can kill larvae within fruit; reapply every 14 days; watch for mite flare-up with repeated applications)
- Success and Entrust (reapply every 7 days)
- Guthion (reapply every 14 days; 15 day PHI)
- Sevin (reapply every 7 days; watch for mite flare-up with repeated use)
- Diazinon (reapply every 7-10 days; 21 day PHI)
- Malathion (reapply every 3 days; watch for mite flare-up with repeated use)

OTHER ORCHARD INSECT PESTS: **Green Peach Aphid** - Scouting tours in northern Utah last week found high numbers of green peach aphids in some peach orchards (as many as 63 aphids in one beating tray sample). If green peach aphid numbers are high, consider using an insecticide effective on this pest for your first PTB cover spray (e.g., Asana, Thiodan, Warrior, Diazinon). **Campylomma Bug** – Low numbers (1-2 per beating trap sample) of Campylomma nymphs were observed in some apple orchards. Fruit are most susceptible to injury during bloom to petal fall, but injury can continue to occur

while fruit is small. Light skinned fruits (e.g., Golden Delicious) are especially susceptible to the raised, corky bumps caused by their feeding. If your fruit is at risk, keep a watch on *Campylomma* densities and if necessary, treat with Assail, Carzol, Thiodan, or Diazinon. **Rosy Apple Aphid** – leaf rolling, sticky honeydew, and moderate to high densities of rosy apple aphids were observed in one apple orchard. Feeding on fruit can cause fruit distortion and stunting. Effective insecticides include Provado, Assail, and Diazinon. **Green Fruitworms** – Speckled green fruitworms have been observed feeding on leaves and young fruit, especially in tart cherry orchards. Fruitworm larvae are easy to control with most insecticides applied for other pests. If fruitworms are causing substantial injury and no other insecticide treatments are planned in the next few days, apply *Bacillus thuringiensis* (Bt; DiPel, Thuricide) or spinosad (Success, Entrust) to knock down their populations.

TO VIEW SPECIFIC ORCHARD INSECT FACT SHEETS:

Codling Moth: <http://extension.usu.edu/files/gardpubs/8.pdf>

Peach Twig Borer: <http://extension.usu.edu/files/factsheets/twiggore.pdf>

Campylomma Bug: <http://extension.usu.edu/files/gardpubs/9.pdf>

Apple Aphids:

<http://extension.usu.edu/files/publications/Insects%2013%20apple%20aphids..pdf>

Speckled Green Fruitworm:

<http://extension.usu.edu/files/publications/green%20fruitworm7-14.pdf>

FOR MORE INFORMATION ON TREE FRUIT PEST MANAGEMENT:

For a posting of archived and current pest advisories and orchard spray timing tables, see the USU Extension IPM web page at:

<http://extension.usu.edu/cooperative/ipm/>

The 2006 update of the Utah “Home Orchard Pest Management Guide” (USU Extension Publication HG 137) is now available at:

<http://extension.usu.edu/files/publications/homeorchard2006.pdf>

For Utah commercial orchard insect control guides (peach and cherry), see:

<http://extension.usu.edu/cooperative/ipm/index.cfm/cid.1424/>

For one-stop shopping for information on Utah insects, plant diseases, IPM, and the Plant Pest Diagnostic Laboratory, go to our “Insects and Plant Diseases” umbrella web site at:

<http://extension.usu.edu/cooperative/ipd/>

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