Tree Fruit IPM Advisory

Weekly Orchard Pest Update, Utah State University Extension, **July 21, 2011**

News/What to Watch For:

- Time to start treating walnuts for walnut husk fly.
- Protect peach fruit from coryneum blight if 4-6 hours of rain happens.
- Commercial growers mark your calendar: USU Extension Tree Fruit Field Day, Utah County, August 23 (DATE CHANGE)

Insect and Disease Activity/Info

APPLES/PEARS

Codling Moth

In some very rare cases, codling moth larvae can attack peach fruit. If you see green fruit with "worms" inside them, it might not be peach twig borer. If the larvae are cream-colored with a brown to black head, that is codling moth.

Most areas along the Wasatch Front are "in between" generations, with second generation egg hatch starting next week. So if your trees are due for a spray, wait until the start of the second generation. Cooler areas are just ending the first generation egg hatch.

Wolly Apple Aphids

Continue to check trees for this aphid that forms cottony-looking colonies on twigs and bark. The larger the colonies get, the more difficult it is to control. Remember from the last advisory that the aphids also feed on roots, which over the long term, can cause trees to be less vigorous.

STONE FRUITS

Peach Silver Mite

Peach silver mite is a microscopic eriophyid mite that feeds on the bottom of the leaves. It is a mite that has been around all season, but may become very noticeable later in the season when populations build to high numbers in the summer heat. Their feeding causes leaves to look silvery in appearance.

Trees can tolerate high populations, but when there are more than 300/leaf (or when leaves start to droop and fall), a miticide or 0.5 - 1% horticultural oil application should take care of the problem. Alternatively, they can be treated in early spring (at budbreak) with oil.

Walnut Husk Fly

It is time to start treating black and English walnuts for walnut husk fly if you have not started already. Late peach varieties are secondary hosts, where they are growing near walnuts.

continued on next page

Insect and Disease Information, continued from previous page

Emergence is just beginning, with peak emergence toward the middle to end of August. Although adults end emergence and egg-laying in late September, the maggots feed for 3-5 weeks before dropping to the soil to pupate.

Early feeding on young walnuts causes the nut to shrivel, turn moldy, and drop prematurely. Later feeding (late Aug. – Sept.) will not affect the kernel, but will result in a husk that is stained black and a hull that is difficult to separate from the nut.

For the most part, treatment on walnuts is not necessary because the kernel is usually not damaged. To make husk removal easier, store infested nuts in a damp burlap bag for 2-3 days.

The only insecticides registered for home use of husk fly on walnuts are spinosad (see products under codling moth in the spray options table) and GF-120. GF-120 is spinosad mixed with a bait. It comes in 1 gallon sizes only and is expensive (approximately $100). If using plain spinosad, consider adding about 4 to 6 tablespoons of molasses per gallon of water applied. The spray mix should be applied as large droplets, evenly spaced throughout the entire tree. It is not necessary to cover all the nuts, just to have large droplets. The spinosad+bait will attract the adults to feed, and then the insecticide kills the flies. (If using spinosad alone, good coverage is important.)

Begin sprays now, continuing every 7 days until within 1 month of walnut harvest. Eggs laid later than this will not have time to develop and cause damage.

SPOTTED WING DROSOPHILA UPDATE

Spotted wing drosophila (SWD), an invasive vinegar fly that was introduced into the U.S. in 2009 and has since spread to at least ten states, was first detected in Kaysville, Utah last August.

This year efforts to monitor for this pest were increased as part of the Cooperative Agricultural Pest Survey (CAPS) program. So far, 66 SWD traps have been placed at 34 sites in Cache, Box Elder, Weber, Davis, Utah, and Washington counties. Trapping sites include areas where raspberries, sweet cherries, tart cherries, and peaches are grown, as well as fruit stands. Additional raspberry and fruit stand sites will be added in the coming weeks. Traps are baited with yeast and sugar solution, which is replaced weekly when trap contents are removed and examined for SWD presence.

No SWD has been detected yet this year.

-Cory Stanley, USU CAPS Coordinator

Degree Day Accumulations and Insect Development

Upcoming Monitoring/Insect Activity

Pest	Host(s)	DD/Monitoring Action
Spider mite	all fruit trees	Populations build in hot, dry weather
Codling moth	apple fruit	Second generation begins late July/early August
Peach twig borer	peach, nectarine, apricot	Second generation egg hatch begins late July/mid-August
Peach powdery mildew	peach	Look for powdery lesions (peach powdery mildew) or rust-colored lesions (apple powdery mildew)
Cherry powdery mildew	cherry	Look for small white lesions on new foliage at shoot terminals
Western cherry fruit fly	cherry	Adult flies will be emerging and laying eggs through September (after harvest)

Degree Day Accumulations and Pest Phenology, through July 20

Click here for information about degree days.

		Codling Moth (1st Generation)			Peach Twig Borer (1st Generation)		
County	Location	DD (post biofix)	% Moth Flight	% Egg Hatch	DD (post biofix)	% Moth Flight	% Egg Hatch
Box Elder	Perry	1038	7	0	806	0	100
	Tremonton	768	100	94	---	---	---
Cache	River Heights	843	0	97	507	99	65
	Smithfield	791	100	95	463	98	58
Carbon	Price	946	1	99	641	0	3
Davis	Kaysville	991	4	99	794	0	99
Grand	Castle Valley	1762	95	76	1362	81	29
Iron	Cedar City	949	2	99	800	0	100
Salt Lake	Holladay	993	4	99	804	0	100
	West Valley City	1128	16	1	939	3	0
	West Jordan	1028	6	100	---	---	---
Tooele	Erda	959	3	99	863	1	0
	Tooele	1034	7	0	964	4	0
Uintah	Vernal	983	4	99	739	0	99
Utah	Alpine	817	0	96	442	97	43
	American Fork	943	2	99	782	0	99
	Genola	1090	12	0	733	0	98
	Goshen	681	99	85	434	97	40
	Lincoln Point	994	4	99	861	1	0
	Lindon	1043	7	0	788	0	99
	Provo	---	---	---	878	1	0
	Payson	967	3	99	---	---	---
	Santaquin-West	957	3	99	528	99	71
	West Mountain	952	3	99	---	---	---
Weber	Pleasant View	1039	7	0	836	0	0
Wasatch	Heber City	688	99	86	---	---	---
Wayne	Capitol Reef	907	1	98	---	---	---

Spray Timing

Codling Moth - Continue to apply your chosen material(s) at the interval provided on the label. Make sure fruit is well protected during the period of greatest egg hatch. You do not need to spray between generations.

County	Location	Keep Fruit Protected up To: (1020 DD)	Second Generation (1120)	Period of Greatest Egg Hatch: 2nd Generation (1320-1720)
Box Elder	Perry	past	July 27	Aug 3 - Aug 21
	Tremonton	past	July 30	Aug 10 - Aug 29
Cache	River Heights	July 27	Aug 2	Aug 10 - Aug 31
	Smithfield	past	Aug 1	Aug 9 - Aug 28
Carbon	Price	July 31	Aug 2	Aug 9 - Sept 3
Davis	Kaysville	past	July 25	Aug 1 - Aug 18
Grand	Castle Valley	past	---	---
Iron	Cedar City	July 23	July 26	Aug 3 - Aug 21
Salt Lake	Holladay	past	---	July 27 - Aug 9
	West Valley City	past	---	July 27 - Aug 11
	West Jordan	past	July 22	July 29 - Aug 13
Tooele	Erda	July 26	July 30	Aug 3 - Aug 18
	Tooele	past	July 25	July 31 - Aug 16
Uintah	Vernal	July 23	July 27	Aug 4 - Aug 24
Utah	Alpine	July 26	July 31	Aug 9 - Aug 27
	American Fork	past	July 27	Aug 3 - Aug 20
	Genola	past	July 21	July 29 - Aug 14
	Goshen	past	July 30	Aug 10 - Aug 27
	Lincoln Point	past	July 25	Aug 2 - Aug 18
	Lindon	past	July 21	July 29 - Aug 13
	Payson	past	July 25	Aug 2 - Aug 18
	Santaquin-West	past	July 25	Aug 2 - Aug 19
	West Mountain	past	July 24	Aug 2 - Aug 18
Weber	Pleasant View	past	July 23	July 30 - Aug 14
Wasatch	Heber City	Aug 8	Aug 15	Aug 25 - Sept 29
Wayne	Capitol Reef	past	---	July 29 - Aug 13

Spray Timing

Peach Twig Borer - End of egg hatch, where you should "keep fruit protected up to" is at 800 degree days. The second generation egg hatch (5%) starts at 1200 DD.

County	Location	Keep Fruit Protected Up To: (800DD)	Start sprays, 2nd Generation (1200 DD)
Box Elder	Perry	past	Aug 8
Cache	River Heights	Aug 2	Aug 21
	Smithfield	past	Aug 18
Davis	Kaysville	past	Aug 4
Grand	Castle Valley	past	July 15
Iron	Cedar City	past	Aug 4
Salt Lake	Holladay	past	July 29
	West Valley City	past	July 29
Tooele	Erda	past	Aug 1
	Tooele	past	July 29
Uintah	Vernal	July 23	Aug 10
Utah	Alpine	Aug 3	Aug 20
	American Fork	past	Aug 5
	Genola	past	Aug 7
	Goshen	past	Aug 15
	Lincoln Point	past	Aug 2
	Lindon	past	Aug 3
	Provo	past	Aug 1
	Santaquin	past	Aug 14
Weber	Pleasant View	past	Aug 2

Spray Materials - Commercial Applicators

The options provided below are not all-inclusive and are not endorsements of USU. Please check the label before mixing.

Target Pest	Host	Example Brands	Chemical	Amount per acre	REI	Comments
Codling Moth	apple	Altacor 35WDG	chlorantraniliprole	3.0-4.5 oz	4 h	re-apply based on product interval through each generation until harvest on Sept. 15
		Assail	acetamiprid	1.7-3.4 oz	12 h	
		Belt SC	flubendiamide	5 oz	12 h	
		Delegate 25WG	spinetoram	6-7 oz	4 h	
		Imidan 70W	phosmet	3.5-5.3 lbs	3 d	
		Voliam Flexi	thiamethoxam + chloran-traniliprole	4-7 oz	12 h	
Woolly apple aphid	apple	Assail	acetamiprid	1.7 oz	12 h	apply post bloom only if scouting shows that this pest is present
		Beleaf	flonicamid	2-2.8 oz	12 h	
		Calypso	thiacloprid	2-4 oz	12 h	
		Clutch	clothianidin	2-3 oz	12 h	
		Admire Pro; generics	imidacloprid	see label	12 h	
Peach twig borer	peach, nectarine	Belt	flubendiamide	3-4 oz	12 h	reapply based on protection interval until harvest
		Altacor	chlorantraniliprole	3.0-4.5 oz	12 h	
		Delegate	imidacloprid	4.5-7.0 oz	12 h	
		Imidan	phosmet	4.25 lbs	12 h	
		Voliam Flexi	thiamethoxam+ chloran-traniliprole	4-7 oz	12 h	
Greater peachtree borer	peach, nectarine, apricot	chlorpyrifos	Lorsban	see label	4 d	**Lorsban**: max once/season; do not allow spray to touch foliage/fruit **Thionex**: max twice/season
		endosulfan	Thionex	see label	4 d	
		esfenvalerate	Asana	see label	12 h	
		pemethrin	Pounce	4-8 oz	12 h	
Powdery mildew	peach	Adament	tebuconazole+ trifloxys-trobin	4-8 oz	4 h	monitor fruit and leaves for powdery mildew and only apply if necessary; chance of fruit infection decreases after pit hardening
		Abound	azoxystrobin	11-15 oz	12 h	
		Orbit, Tilt	propiconazole	4 oz	4 h	
		Pristine	boscalid+ pyraclostrobin	2-2.4 oz	12 h	
Western Cherry Fruit fly	cherry	Altacor	chlorantraniliprole	3.0-4.5 oz	4 h	start applications when fruit develops salmon blush color on top of yellow and continue until harvest
		Assail	acetamiprid	5.3-8 oz	12 h	
		Delegate	spinetoram	4.5-7 oz	4 h	
		GF-120	spinosad+bait	10-20 oz	4 h	
		Admire Pro; generics	imidacloprid	see label	12 h	
Powdery mildew	cherry	Abound	azoxystrobin	11-13 oz	4 h	
		Pristine	boscalid+ pyraclostrobin	10.5-14.5 oz	12 h	
		Quintec	quinoxyfen	7 oz	12 h	
		Rally	myclobutanil	2.5-6 oz	24 h	
		Rubigan	fenarimol	6-12 oz	12 h	

Spray Materials - Residential Applicators

Note that these treatments are only recommended if you know you have the particular pest in your trees. We recommend learning about specific pests, and scouting your trees at least once/week.

Target Pest	Host	Chemical	Example Brands	Comments
Codling moth	apple, pear	*Conventional*		**acetamiprid**: every 14 days **carbaryl**: every 14 - 21 days **malathion**: every 7 days **gamma-cyhalothrin**: every 14 days **bifenthrin**: every 14 days **hort. oil**: lasts 5-7 days for killing eggs; use at beginning of each generation; apply at 1% rate only when temperatures are below 80; follow up with a different product **spinosad**: every 7 days
		carbaryl	Sevin, Bonide Fruit Tree Spray, etc.	
		acetamiprid	Ortho Max Flower, Fruit, and Veg.,	
		malathion	Malathion	
		gamma-cyhalothrin	Spectracide Triazicide	
		bifenthrin	Ortho Max Garden Insect Killer	
		Soft/organic		
		hort. oil (1%)	Many products	
		spinosad	Green Light, Gardens Alive Bull's Eye	
Peach twig borer	peach, nectarine	*Conventional*		see comments under Codling Moth **permethrin**: every 14 days; this ingredient is becoming less available in stores **Surround**: every 3-5 days; works to repel, not kill insects; only moderate control; must purchase online
		acetamiprid	Ortho Max Flower, Fruit & Veg	
		carbaryl	Sevin, Bonide Fruit Tree Spray, etc.	
		malathion	Malathion	
		permethrin	Basic Solutions Yard & Garden	
		Soft/organic		
		spinosad	see 'codling moth' above	
		kaolin clay	Surround	
Greater peachtree borer	peach, nectarine, apricot	permethrin, bifenthrin	variety	**permethrin:** apply every 14-21 days until mid-September **carbaryl:** must be applied every 7 days
		carbaryl	Sevin, Bonide Fruit Tree Spray	
Aphids	all fruit trees	carbaryl	Bayer Advanced	start with a single application
		bifenthrin	Ortho Bug-B-Gone	
		malathion	Bonide, Malathion	
		permethrin	Lilly Miller	
Powdery mildew	all fruit trees	bayleton	Bonide	do not apply lime sulfur when temperature is over 75 degrees F. **Neem oil** and **Kaligreen** are organic options
		lime sulfur	Lilly Miller	
		propiconazole	Ferti-Lome	
		neem oil	Garden Safe	
Western cherry fruit fly	cherry	potassium bicarbonate	Kaligreen	start applications when fruit in sunniest locations develop a salmon blush **spinosad**: every 7 days
		malathion	Malathion	
		pyrethrin	Concern Multi-Purpose	
		spinosad	see above	

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