Tree Fruit IPM Advisory

Weekly Orchard Pest Update, Utah State University Extension, **September 10, 2010**

News/What to Watch For:

Make sure trees get plenty of irrigation water toward late season
Keep peach and apple protected from internal caterpillars through harvest or until Sept. 15, whichever is earlier
Watch peaches for walnut husk fly; this will be a white maggot inside the fruit

Spray materials, pages 4-5

Insect and Disease Activity/Info

APPLES/PEARS

Codling Moth

The end is near! The general rule of thumb is that after September 15, apples do not need protection against hatching codling moth larvae. The days are shorter and nights are cooler so that females are not flying (they need temperatures near 60 degrees or more to fly, mate, and lay eggs) and larvae are not developing. If your last spray recently ended, you can probably get by with not applying any more due to the very cool nights we are now experiencing.

STONE FRUITS

Peach Twig Borer

Twig borer trap catch numbers in many of the sites where we are monitoring have significantly declined. Like codling moth, fruit (if not yet harvested) does not need to be sprayed after September 15.

Targeting peach twig borer during dormancy next spring is a great first step to knocking down the pest population. They overwinter as larvae in small cells called hibernacula in protected areas of tree limbs. When temperatures warm in the spring (soon after bud break) these young larvae emerge from their cells to feed on the succulent new tissue. So they are exposed (and susceptible to insecticides) at this time (through bloom). A delayed dormant spray (at bud break) will target the hibernacula, and a bloom-time spray of *Bacillus thuringiensis* (safe on bees) should result in a significantly smaller summer population.

Coryneum Blight

If you still have peaches (which many of you do because of the late season), remember that they are still susceptible to coryneum blight. The softer fruit is most susceptible. Late infections show up as circular, gray, sunken lesions.

Be prepared to spray your peaches, nectarines, and apricots at 50% leaf-fall in the next month or so. This application will protect the leaf scars, where fall infections occur. The hard spray of fungicide may also knock down the remaining leaves so that most of the leaf scars on the trees are protected at the optimal timing. The fungicide options that can be used for this spray are fixed coppers or chlorothalonil (Bravo or Daconil). If you have not have problems with coryneum (lucky you), you do not need to apply the fall spray.

Greater Peachtree Borer

We are still catching adults in pheromone traps, so continue to treat lower trunks through September if this pest is a problem for you. Susceptible species are peach, nectarine, apricot, and plum.

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Insect and Disease Information, continued from previous page

Spider Mites

Spider mite activity has been slowing down due to the cold weather. This pest thrives in hot, dry conditions. Females prepare for overwintering by turning from their typical yellow color to a brighter orange, and then migrating in large numbers down the tree trunks to protected areas in debris and groundcover. If spider mite densities are still high, a late season treatment may be helpful, using a miticide or horticultural oil to protect trees from early senescence.

Late Season Peach Pests

As peaches and nectarines ripen on the tree (this information applies primarily to residential growers), fruit becomes attractive to a variety of pests. This year was unusual in that there are a greater than normal number of peaches with split pits (where the pit forms a minute opening at the stem end and eventually breaks apart). Fruit with split pits are not evident until fruit swells, and can be identified by a small crack on either side of the stem.

In fruits with split pits, the damage to the pit actually happens very early in fruit development, possibly during flowering. Freeze injury during bloom or early fruit development may have been the problem this past spring. Heavy rains, too, during fruit growth also aggravate pit breakage. Rapid fruit swell that occurs later in development, often happens before the pit is fully hardened. The stress of the expanding fruit on the pit causes the final splitting. Fruits that are managed for large size (through thinning, fertilization, etc.) are more susceptible to pit splitting or shattering.

Fruits with split pits are much more attractive to a variety of insects because of the easy access inside the fruit. These fruits may also rot from the inside out.

Other late season peach problems include wasps, stink bugs, leaf-footed plant bugs, box-elder bugs, and earwigs. Wasps are only a problem with very overripe fruit or damaged fruit with exposed flesh. The European paper wasp population has been very low this season, but if necessary, they can be dealt with by hanging traps in your trees. Make a homemade trap by cutting the top third from a plastic soda bottle and inverting it into the bottom portion. Punch a hole on each side and tie on string for hanging. Add a mixture of 1 part fruit juice to 10 parts water plus 1 tsp. liquid detergent. Adding a bit of ripened fruit will be even more attractive.

Stink bugs, leaf-footed plant bugs, and boxelder bugs will feed on ripe fruit, and may leave a small scar. The organic-approved pyrethrin (Pyganic) can be used up to the day of harvest to manage these pests.

Earwigs also feed on ripening and ripe fruit. (We have also seen injury on green fruit in heavy populations.) Fruit injury from earwigs is typically small, circular pits in the surface of the peach, usually associated with black dots scattered within and around the feeding area, which are frass pellets. Earwigs can be managed with an application of Sevin.

Degree Day Accumulations and Insect Development

Degree Day Accumulations and Insect Phenology

March 1 - Thursday, September 9

County	Location	Codling Moth, 2nd Gen.			Peach Twig Borer, 3rd Gen.		
		DD (post biofix)	% Moth Flight	% Egg Hatch	DD (post biofix)	% Moth Flight	% Egg Hatch
Box Elder	Perry	2250	26	5	2099	29	3
	Tremonton	1949	2	92	1873	4	99
Cache	North Logan	1731	94 (2nd gen)	74	1456	94 (2nd gen)	51
	Providence	1943	2	92	1586	98 (2nd gen)	77
	Smithfield	1779	96 (2nd gen)	79	1550	98 (2nd gen)	73
Carbon	Price	2289	29	7	2078	26	3
Davis	Kaysville	2183	17	2	2047	20	1
Grand	Castle Valley	3271	20 (4th gen)	3	3118	36 (4th gen)	8
Juab	Tintic	1812	98 (2nd gen)	83	1631	99	86
Salt Lake	Holladay	2338	34	9	2220	53	12
	West Valley	2460	56	18	2329	71	26
Sevier	Richfield	2280	29	7	2209	49	10
Tooele	Erda	2175	17	2	2175	45	8
	Tooele	2353	39	8	2222	53	12
Uintah	Vernal	2119	12	100	1964	10	0
Utah	Alpine	1999	4	95	1785	1	97
	American Fork	2222	22	3	2050	23	2
	Genola	2254	26	5	2076	26	3
	Lincoln Point	2228	22	3	2065	23	2
	Orem	2408	46	11	2206	49	10
	Payson	2130	14	100	1988	12	0
	Provo	2391	43	10	2209	49	10
	Santaquin	2075	9	98	1899	5	100
	West Mountain	1978	3	94	1817	2	98
Weber	Pleasant View	2296	31	8	2061	23	2
Wasatch	Heber City	1781	96 (2nd gen)	79	1542	98 (2nd gen)	69
Wayne	Capitol Reef	2763	91	66	2588	96	73

Spray Materials - Commercial Applicators

Target Pest	Host	Chemical	Example Brands (Classification)	Amount per acre	REI	PHI	Comments
Spider mites	apple, peach	abamectin bifenazate difocol fenpyroximate spirodiclofen	Agrimek Acramite Kelthane Fujimite Envidor	10-20 oz .75-1 lb 4 lb 32 oz 16-18 oz	12 h 12 h 48 h 12 h 4 h	28 d 7 d 7 d 14 d 7 d	
Box-elder bug	peach, nectarine	carbaryl pyrethrin	Sevin Pyganic, Pyronyl	see label see label	12 h 4 h	3 d 0 d	
Earwigs	peaches, nectarine	carbaryl	Sevin 4F	2-3 qts	12 h	3 d	
Greater peachtree borer	peach, nectarine, apricot	chlorpyrifos endosulfan esfenvalerate pemethrin	Lorsban Thionex Asana Pounce	see label see label see label 4-8 oz	4 d 4 d 12 h 12 h	14 d 21 d 14 d 14 d	**Lorsban**: max once/season; do not allow spray to touch foliage/ fruit **Thionex**: max twice/season

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/Insecticide Mode of Action Group (group)
Greater peachtree borer	peach, nectarine, apricot	permethrin, bifenthrin carbaryl	Bonide Eight, Ortho Bug-b-Gone, Green Light Borer Killer, Bonide Borer-Miner Killer, Enforcer Outdoor Insect Killer, Hi-Yield Broad Use Including Gardens; Lilly Miller Multi-Purpose Insect Spray, Spectracide Bug Stop Sevin, Bonide Fruit Tree Spray	**permethrin**: apply every 14-21 days until mid-September in highly infested areas; apply twice (now and one month later) in low infestations **carbaryl**: must be applied every 7 days
Walnut husk fly	walnut	carbaryl malathion pyrethrin spinosad *(Soft/Organic)*	Sevin Malathion Concern Multi-Purpose see above	start applications now (as of July 14) and repeat every 7-14 days until 1 month before harvest. mixing molasses with the Sevin or spinosad will be more effective

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