

News/What to Watch For:

- Consider foliar nitrogen application
- Do not let trees go dry this fall
- Important coryneum blight preventive spray at 50% leaf drop on peach/nectarine, plum, apricot
- Prevent blister mites, silver mite, and other non-webbing mites with a sulfur spray just as leaves start to color

Announcements

SPOTTED WING DROSOPHILA UPDATE

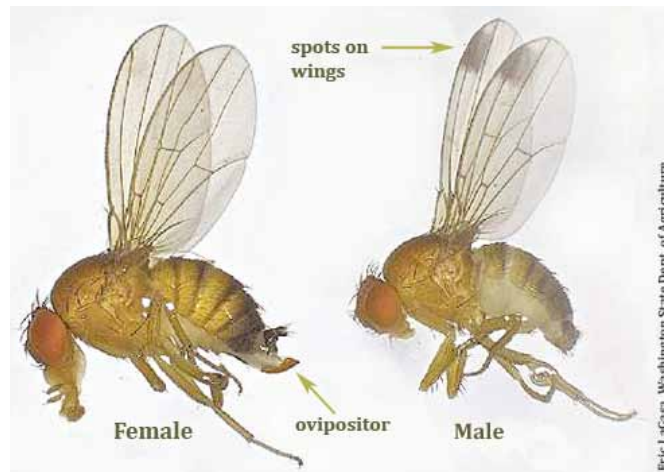
- If anyone in the Layton area is willing to allow SWD trapping on your property for the next month, please contact cory.stanley@usu.edu. ◀

Cory Stanley, USU Coordinator for the Cooperative Agriculture Pest Survey program, reports that the first spotted wing drosophila (SWD) trap catch of 2012 in Utah occurred on September 19 in a backyard orchard in Layton. The trap contained 8 flies.

In 2010-11 Stanley monitored for SWD in 50 fruit-growing locations throughout Utah, and in 2012, focused all monitoring in Davis County. Several growers throughout the state are monitoring their own farms and have not reported any trap catch.

In 2010, SWD was trapped at the USU experimental orchard in Kaysville (total of 73 flies for the season), and in 2011, it was trapped at the same Kaysville orchard (approx. 25 flies) plus two commercial orchards in Fruit Heights (26 flies). When compared with other western states (California, Oregon, Washington) and B.C., Canada, where traps can catch upwards of 40-150 flies/week, these numbers in Utah are very low, possibly attributed to the colder winters, more arid climate, and rigorous spray programs.

The USU traps are a specially designed cup and lid arrangement filled with either cider vinegar or a sugar-yeast solution. A variety of trap designs will work for the orchardist or backyard grower, including Solo cups with holes and lids, or store-bought traps.



A grower will not know whether a treatment program is necessary unless monitoring traps indicate that the flies are present.

SWD maggots will feed in a wide variety of fruit: cherry, blackberry, raspberry, strawberry, grapes, blueberry, and peaches. Cherries and small berries are the prime hosts, but all overripe fruit is fair game. It is important

to take precautions to prevent spread and new infestations by picking fruit before it is overripe, removing fruit from trees after harvest, and removing or mowing/shredding fallen fruit.

Below are links to more information about monitoring and treatment for spotted wing drosophila, and images of damage to fruit (click on orange link):

- [USU Extension fact sheet](#)
- [USU Extension video](#) about trapping and identification.
- Oregon State has a wonderful website, spottedwing.com, including some very detailed spray recommendations for a variety of fruits.

USU Extension will be holding SWD workshops throughout the fruit-growing areas of the state in February, March, and April 2013, as well as a one-day conference on February 26. The workshops will teach exactly how to make and monitor traps and how to identify SWD. Participants will also be given a trap to keep.

Insect and Disease Activity

APPLES/PEARS

Codling Moth

Remove apple bins from the orchard after harvest



Hopefully everyone is having a good apple harvest, with worm-free apples. There are steps you can take this fall to further reduce the codling moth population:

- Remove all fallen and infested fruit still on the tree. (This should be done all season, and is more practical for backyard growers.)
- This winter, remove unwanted or unmanaged apple trees that serve as hosts.
- Commercial growers should remove bins from the orchard and store off-site, if possible, as they often harbor overwintering larvae.

As harvest continues, evaluate those areas of your orchard that see the most damage: are they border trees? are they near external sources of infestation? do you see a pattern? Next season, pay close attention to those problem spots. Hang a monitoring traps there to determine pest pressure. Spot treatments may be necessary, or growers using mating disruption may consider doubling the application rate on border trees or hot spots.

Apple- and Pearleaf Blister Mites and Rust Mites

These mites cause the small raised “blisters” on the leaves of pear and apple, which look like brown or black leaf spots. Infested leaves may change color and drop early. As leaves begin to change color and senesce, the mites leave their “blisters” and migrate to the bud scales where they spend the winter.

in spring, females feed on developing leaves and lay their eggs within the blisters. The mites feed within the blisters for protection, but are able to move from one to another. There are several generations over the summer.



Blister mites are mostly a problem on landscape and backyard trees, and apples, pears, and crabapples are hosts.

The best treatment timing is in early fall, just as the leaves start to turn color, when the mites are migrating to leaf buds. Keep in mind that severely infected leaves may turn color early, so keep an eye on the tree and don't miss out on the timing (which is after the leaves have completely changed color). Treatment options include:

- 1.5-2% oil, thoroughly covering the bottoms of the leaves
- Sevin (carbaryl), alone or with 1% oil
- lime-sulfur (can mix with oil, but not on drought-stressed trees)

Other eriophyid mites include peach silver mite, cherry rust mite, and apple rust mite. Peach silver mite causes peach leaves to have a metallic sheen, while damage from the other mites looks similar to spider mite damage. These other species of mites also migrate from the leaves to bud scales and are susceptible to treatment at the same timing.

Pear Psylla

Pear psylla can be managed in spring or fall with horticultural oil or sulfur. A fall application should be applied just after harvest when the weather has cooled.

STONE FRUITS

Coryneum Blight

From what I saw during scouting trips, coryneum blight was not near the problem this year as in years past (due to the drought.) But that does not mean it is gone. Any history of coryneum means the need for continued management to prevent outbreaks.

Insect and Disease Information, continued from previous page



Options for this fall for coryneum include:

- fixed coppers or copper sulfate (Kocide, C-O-C-S, Bonide, Lily Miller Microcop, etc.)
- chlorothalonil

If any trees or orchards have severe infections, it will take at least three years of diligent fall, spring, and growing season treatments to suppress the disease incidence.

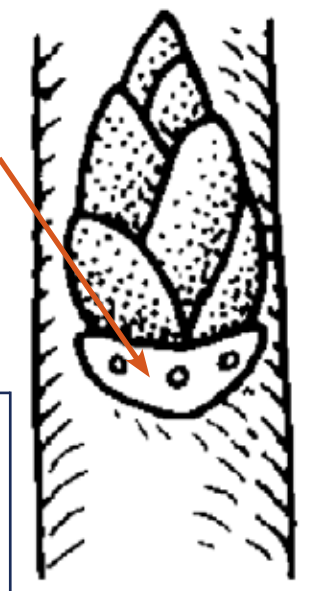
During dormant season pruning, inspect trees thoroughly for sunken cankers at buds and remove and destroy those stems and twigs. In spring, spray trees at shuck split (when the papery covering over fruit splits away) with chlorothalonil, Pristine, or captan. If necessary, apply captan or Pristine during the growing season during wet periods.

Cherry Powdery Mildew



A late season treatment of lime-sulfur just prior to leaf fall can help reduce overwintering inoculum of *Podosphaera*. (If you applied oil soon after harvest for powdery mildew, you should not need the lime-sulfur spray.) Powdery mildew can reduce photosynthetic ability, reduce yields, and when it has infected fruit stems, prevent fruit from shaking off.

New infections occur in the fall in leaf scars, so be sure that the spray at 50% leaf drop covers these areas, and is sprayed with force to knock down the remaining leaves and cover those scars, too.



A copper spray on peach/nectarine and apricots should be applied at 50% leaf drop for prevention of new coryneum infections. This spray will knock off much of the remaining leaves, so that most of the targeted infection sites--leaf scars--will get treated.

Production Information

Foliar Nitrogen Application on Cherries, Apples in Fall

In general, nitrogen fertilizer should not be used on fruit trees after late July because they can promote new growth and hinder the tree's ability to enter dormancy in the fall. Once the tree is dormant, nitrogen could be applied to the soil, but this application would be a waste, with much of it leaching out over the winter.

An alternative method of delivering nitrogen to cherry and apple trees is to apply it as a foliar spray. Fruit specialist, Dr. Brent Black, recommends using foliar urea with a low biuret (formulated for foliar applications), applied at 3-5 lb/100 gal at

a rate of 200 gal/acre. This is not a lot of nitrogen (about 6-10 lb/acre), but delivers a big bang for the buck. Tart cherries, in particular, were under stress this season due to the heavy crop load. The nitrogen in foliar sprays is stored in the buds, and helps trees to develop good early elongation growth, which directly affects fruit development.

The spray should be applied in early October. If applied too late (when leaves begin to color), it will not be absorbed and will be lost to the soil. Foliar nitrogen applications are most beneficial on trees with low N reserves.

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Don't Forget One Last Watering

The months between September 2011 and August 2012 mark western Utah's driest year ever. Utah's commercial fruit growing area received slightly more rain, but the figures are still not promising. And climatologists are forecasting that we are entering a stretch of dry years. Where water is available, we can at least help trees make it through this rough patch.

Even when trees appear to have "gone dormant" when all their leaves have fallen, they are still growing--underground, that is. Trees produce foliar growth in spring and summer, and in fall, they spend energy on root growth.

Soils that are moist will help trees to optimize their root growth and be prepared for hard frosts come late fall and winter. Trees with dry roots in winter are more susceptible to winter injury and desiccation.

Provide at least one or two good waterings before the ground freezes, of about 2-3 inches each time. This amount will water the trees deeply down into the root zone.



Sometimes Peaches are the Pits

Many peach growers discovered at harvest that peaches of all varieties, including late, had split pits or shattered pits this year. The problem can happen about 3 weeks after bloom, or during the pit hardening stage when the fruits make their final swell. When the fruit flesh expands before the pit has fully hardened and the bond between flesh and pit is still tight, internal forces pull on the pit, causing it to break along the suture. Usually, in later ripening varieties, the bond between flesh and pit is weaker during the period of final swell, lessening the chances of split pit.

Fruits with shattered pits are usually obvious, but sometimes the problem is not noticed until after storage or when the fruit is opened and the cavity is a gummy mess. The splits can allow insects to enter, introducing rot fungi.

There is no one cause of split pits, and many factors have been named as contributing to the problem. The real issue lies in the balance of carbohydrates

between the canopy and roots. This balance is upset by winter injury, high heat, freeze injury to fruit in spring, excess soil moisture in spring followed by dry soils in summer, excess vigor, or trunk damage. In addition, practices that are necessary to produce large fruit size can sometimes lead to split pits such as heavy thinning and excess irrigation or fertilizer applications close to harvest.

Problems with split pit vary from year to year and from cultivar to cultivar. If this is a problem you find every year, the idea is to develop a balance between fruit size and split pit losses. This may be done by:

- do not over-thin, or better yet, leave heavier crops on prone varieties
- on prone varieties, wait and thin until pits are hard (will have to use knife to test)
- reduce fertilization practices
- maintain even soil moisture



Shattered pit is caused by an internal defect, sometimes with gumming at the blossom end.



Split pit is an opening or splitting of the pit at the stem end.

haunaryan.blogspot.com/2011/09/01

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Examples of Apple Maladies Seen During Harvest

Some of the examples below are the more common types of damage that can be found on ripening apples.

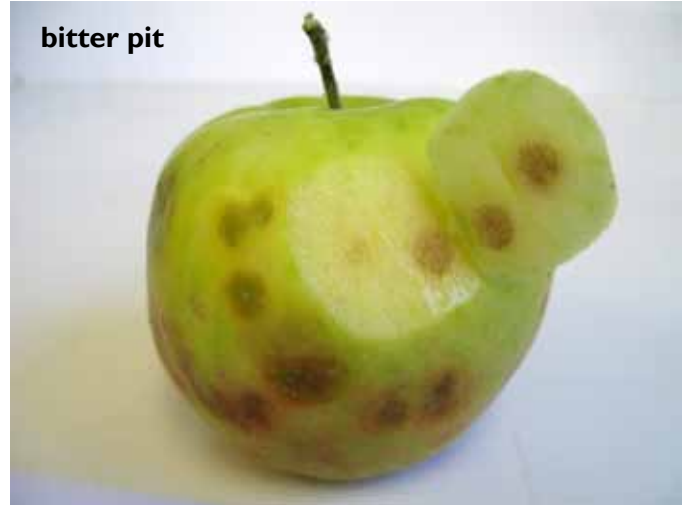


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split at calyx end



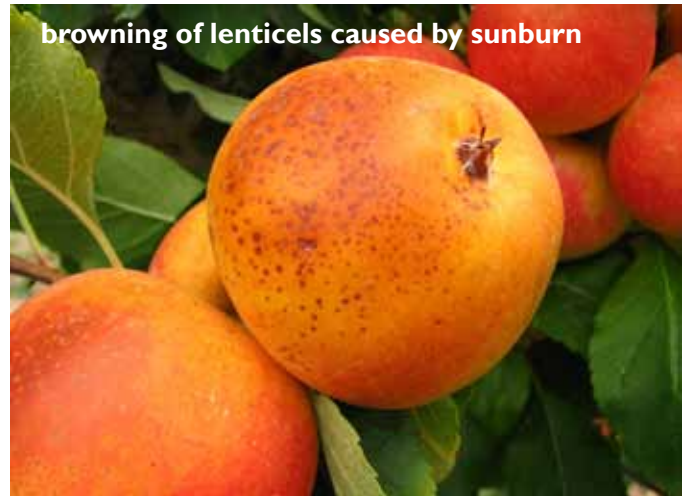
bitter pit



sunburn



browning of lenticels caused by sunburn



earwig feeding



scars from campylomma feeding



Production Information, continued from previous page



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