

Backyard: Apple Maladies at Harvest

October 7, 2016



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JUST THE BASICS

GENERAL:

- Rake up fallen fruit to reduce pest pressure for next year.
- Mow tall weeds around trees/install barrier or wire to reduce rodent problems and deer rubbing
- Make sure all new plantings get white tree wrap (December through early April) or white paint (50% latex/50% water), from the base of the tree to the scaffold limbs, to prevent sunscald.
- Give trees a good watering before the ground freezes.
- Do not to any pruning now; wait until winter (apple) or early to mid-spring (peaches).

APPLE AND PEAR

- Apply a treatment when the first leaves start turning color to control *blister mites*.
- To reduce *codling moth* for next year, remove excess fruit on the tree and rake fruit on the ground.

PEACH/NECTARINE

- Prevent new *coryneum blight* (shothole) infections this fall by applying copper to trees when 50% of the leaves have fallen.
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Backyard Information

APPLE & PEAR

Blister Mites

Hosts: apple, pear

Blister mites and other eriophyid mites can be treated now, and no later than just before leaf drop. They are more of an aesthetic problem, and do not harm the health of the tree. In fact, they serve as a food source for early emerging predatory mites in the spring. In turn, the predatory mites will take care of the harmful spider mites that are active during summer.

Blister mites belong to a group of mites call eriophyid mites (air-ee-oh-FYE-id). They are so small that they are invisible to the naked eye, but their feeding can cause visible symptoms.



Blister mites cause early fall color change and leaf drop (shown here on apple).

Small raised blisters form on the leaves of pear and apple, which – by the middle of summer – look like brown or black leaf spots. In the fall, infested leaves will change color and drop before the healthy leaves.

In early fall, just as the leaves start to turn color, the mites migrate to leaf buds to spend the winter under the bud scales. Their exposure at this time makes it a good opportunity to treat.

If treatment is desired, options include:

- 1.5 – 2% oil, thoroughly covering the tops and bottoms of the leaves
- Sevin (carbaryl), alone or with 1% oil



Blister mite spots on pear turn black by mid to late season.

PEACH/NECTARINE/CHERRY

Coryneum Blight

Hosts: peach/nectarine, plum, apricot

The time to treat coryneum blight this fall is when 50% of leaves have dropped. Options include:

- copper (Bonide Copper, Lily Miller Microcrop, etc.)
- chlorothalonil (Fertilome Broad Spectrum, Ortho Max Disease, etc.)

This disease affects many parts of the tree, including buds, small twigs, leaves, and fruit, so it is important to prevent new infections from happening in the fall.

When leaves drop, they leave a small open scar, and if any spores land on those scars under the right weather conditions, the fungus will invade the tissue and kill the bud. It is these bud infections that then lead to new leaf and fruit infections the following spring.



New coryneum infections occur in the fall on leaf scars, so be sure that the spray at 50% leaf drop covers these areas.

Mealy Plum Aphid

Hosts: most noticeable on apricot or flying around the yard

For the last several weeks, aphids have been flying in very high numbers to their woody plant hosts to get ready for egg-laying. Some people think they are gnats or flies, but aphids are the

nuisance culprits. Mealy plum aphid is the most common.

This aphid spends the summer on cattails and reed grasses. We had a very hot summer this year, so the populations built to very high levels on those summer hosts. In late summer, mealy plum aphid takes flight, searching for apricot and plum trees on which to feed. The tiny dots on the leaves are young aphids, not eggs. When those young aphids mature, they mate and lay cream-colored eggs in cracks and crevices near buds.

NOT TO FEAR: The number of aphids seen in fall does not mean a big populations the following spring. Those flying aphids you've seen will be killed by frost, and only a small portion of the eggs that were laid will survive the winter.

In addition, letting the aphids do their "thing" this winter allows for food for natural enemies (lady beetles, lacewings, parasitoid wasps), helping these good insects to thrive.



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INVASIVE PEST UPDATES

Dr. Lori Spears, USU Cooperative Agriculture Pest Survey Coordinator, leads monitoring efforts for invasive pests in Utah agriculture. She provides an update of two important fruit pests below.

Brown Marmorated Stink Bug

Brown Marmorated Stink Bug (BMSB; *Halymorpha halys*) is a major invasive pest of tree fruits, small fruits, vegetables, and ornamentals. BMSB is now considered to be established in Weber, Davis, Salt Lake, and Utah counties. This summer and early fall, hundreds of adults and nymphs and several egg masses were found in Salt Lake County on ornamental plants, particularly catalpa trees, and on buildings. Most were seen in July and August.

BMSB adults (but not injury) were found for the first time in fruit crops in Utah. One adult was collected in a trap located at the edge of a peach orchard near wild habitat in Davis County in June. In late September, an observant Utah County grower discovered one adult from a box of newly-harvested plums that had been in storage for one night. The storage facility was in close proximity to

an apple and peach orchard, bordered by an alfalfa field, and near only a few homes.

To learn more about how to monitor for BMSB, what crops it favors, and recommended management strategies, see the Invasive Fruit Pest Guide for Utah.



Orchards in the eastern U.S. and areas of the West Coast have, so far, experienced the brunt of BMSB damage.

Spotted Wing Drosophila

Spotted Wing Drosophila (SWD; *Drosophila suzukii*) is an invasive pest of fruits. SWD was first detected in Utah in Davis County in 2010. Since 2014, SWD adults have also been found in Rich, Cache, Box Elder, Weber, and Utah counties. Eggs and larvae have not been found in Utah, probably due to low populations; however, adults are occurring in the same locations in subsequent years, suggesting that SWD is reproducing and completing full generations in Utah.

This year, SWD adults first started appearing in traps (located in commercial orchards, wild sites, and backyard gardens) in mid-August, and their numbers have been steadily increasing. In previous years, activity peaked during mid-October and so it is likely that their numbers will peak sometime in the next couple of weeks before dropping to near zero by early to mid-November.

A general practice for sites that are infested is to break up fruit that is on the ground with a flail mower or other device. This prevents fruit material from hosting larvae. For more specific information about SWD monitoring and/or management, see the Invasive Fruit Pest Guide for Utah.



To date, SWD maggots have not been found in fruits in Utah. The mystery of where they are feeding remains.

Trap catch of SWD in each monitored county during the week of Sept. 30, and for the season (as of October).

County	SWD During the Week of Sept. 30	Season-long Total	Notes
Rich	4	12	all in commercial crops
Cache	465	1,030	790 in wild sites or backyard gardens
Box Elder	64	132	all in commercial crops
Weber	8	41	all in commercial crops
Davis	49	127	111 in wild sites or backyard gardens
Utah - Provo and north	2	9	one in a wild site
Utah - south of Provo	9	43	36 in wild sites

Apple Maladies Found at Harvest



Codling moth can introduce fungi or bacteria that can cause a soft, spongy rot.



Earwig feeding. Note the black dot (excrement) inside the hole, which helps to identify earwig feeding.



Powdery mildew causes lace-like russeting on fruit.



Frost injury often appears as a circular ring of russet around the apple.



Hail damage can sometimes look like insect damage or a disorder.



When campylopusia bugs feed on developing fruitlets in spring, they cause a raised blister.



San Jose scale bodies can be rubbed off of fruit for home consumption, but fruit is unacceptable for the retail market.



“Jonathon spot” occurs on Jonathon Rome, Gravenstein, and other varieties. Its cause is unknown.



When sunburn is severe, fruit can crack. Fruit can be protected from sunburn by applying the product, Surround, which creates a reflective white surface.



When Fuji and Gala apple expand rapidly toward harvest, the internal pressure may cause cracking at the stem end.



When rosy apple aphids feed on leaves and flowers during bloom, the resulting fruit becomes deformed and small.



A dry rot may develop on the calyx end of fruit, mostly introduced by insect feeding.



The rot introduced by codling moth can also be dry and firm.



Birds are becoming more and more of a problem in orchards.



Some nutrient or pesticide sprays can puddle at the stem end, and cause russetting of the fruit skin.



Light frost damage will show up as a ring of small lesions around the bottom of the apple.



Thrips are tiny insects that can lay eggs on the developing apple, causing a “pansy” shaped spot.



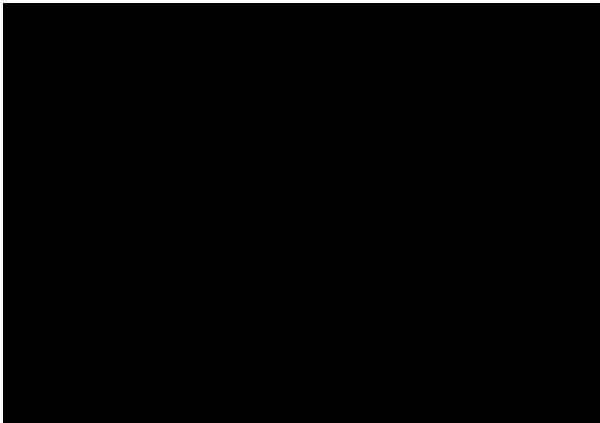
Apple scab is somewhat rare in Utah, causing black, circular, scabby lesions.



Lesions caused by bitter pit of apple are focused closer to the calyx end.



Lenticels within a sunburned area on fruit frequently become brown or black.



general fruit cracking is common and its cause is not well-understood



Stink and lygus bugs
puncture-type feeding results
in deep pits whose symptom is
known as “cat-facing.”



Fire blight infections can
happen later in the season,
especially through wounds on
fruit, resulting in a soft rot.



Hoenycrisp apples have a soft flesh, and are prone to diseases like bitter rot.

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