EXTENSION
UtahStateUniversity

Tree Fruit IPM Advisory

UTAH PESTS

Weekly Orchard Pest Update, Utah State University Extension, **March 14, 2016**

News/What to Watch For:

Warm March temperatures have advanced bud stages to a week or more ahead of schedule in northern Utah, and even farther ahead of schedule in southern Utah.

The **Bud Stages and Critical Temperatures** bulletin shows images of bud stages, as well as the temperatures at which 10% or 90% of flowers may be killed, and can help determine whether frost protection is needed.

Apples and pears should already be pruned, and peaches and nectarines can be pruned now.

Bud Stages

For images of bud stages and temperatures at which injury may occur, **click here** for a pdf fact sheet.

Box Elder County:
Apple: silver tip
Apricot: white bud
Cherry: swollen bud
Peach: swollen bud
Pear: swollen bud

Cache County:
Apple: swollen bud
Cherry: dormant
Peach: swollen bud
Pear: swollen bud

Davis County, Salt Lake County, Weber County:
Apple: silver tip
Apricot: white bud - first bloom
Cherry: swollen bud
Peach: swollen bud
Pear: swollen bud

Utah County:
Apple: silver tip
Apricot: white bud - first bloom
Cherry: swollen bud
Peach: swollen bud
Pear: swollen bud

Information on Dormant Sprays

The use of horticultural oil as a dormant spray can target many insect pests (see next page for examples) at a time when beneficial insects are not yet active. Despite the fact that we call it "dormant oil", the application is not when trees are still dormant. A better term would be a "delayed-dormant" application, because the oil should be applied after bud swell. This coincides with the increasing activity of the overwintering insect stages, such as aphid eggs, scale nymphs, and peach twig borer larvae.

In southern Utah, dormant oil should already have been applied. In northern Utah, it is approaching time to apply the spray in some areas.

When to Spray

There are a few factors that must coincide to determine when to spray: the bud stages of your fruit trees (click here for a pdf fact sheet), and temperature.

Bud Stages

The window for application extends from bud swell to when leaves just start emerging. The ***last point*** at which you can safely apply oil is:

- **apple**: half-inch green (ideally, application is made at green tip stage)
- **pear**: cluster bud
- **cherry**: white bud
- **peach/nectarine**: pre-bloom (when the pink shows through the bud)

Temperature

Only apply oil if temperatures remain above freezing (ideally above 40°F) for 24 hours after application. Ideally, oil should be applied on a clear, non-windy day in the 50 to 70°F temperature range.

Oil should be applied at a rate of 2%, which is 2 gallons per 100 gallons of water, or 5 Tbs in 1 gallon of water. When applying dormant or delayed dormant sprays, make sure you thoroughly cover all cracks and crevices.

Commercial growers should mix oil with an insecticide such as Diazinon or Asana. When spraying apple trees, add in copper for fire blight.

continued on next page

Insects Treated By Dormant Sprays

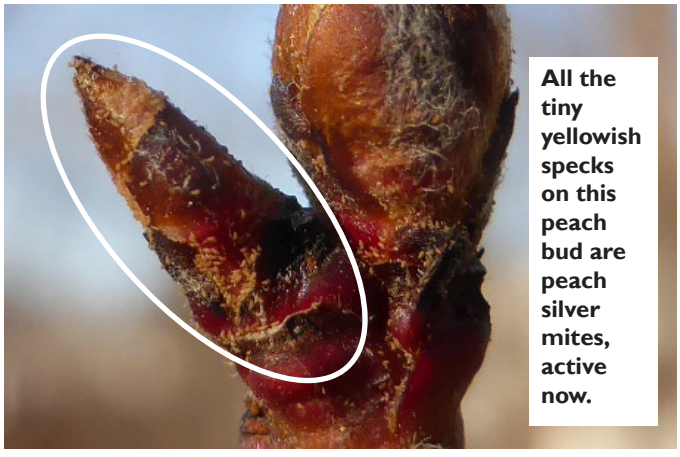
Keep in mind that applying a dormant spray is not required every year. If the target pest listed below was slight to non-existent last year, you can skip the dormant spray. Horticultural oil can also be used when leaves are present to target aphids, spider mites, scale, and even powdery mildew. The rate changes to 1%, and it should not be applied when temperatures will reach 90°F within 4 hours.

aphids: Overwinter as eggs near buds on most fruit trees. Use oil alone or with Diazinon (restricted use) or a pyrethroid.

San Jose scale: Overwinters as a mix of nymphs and adults. on apple trees. Nymphs have "black caps". Use oil alone or with pyriproxyfen (Esteem, for commercial use)

pear psylla: Adults lay eggs near buds in early spring. If this was a problem last year, apply oil twice, spaced about 7 days apart.

peach twig borer: Overwinter as larvae in crevices in the tree canopy on peach/nectarine. Use oil alone or mix with Diazinon or spinosad. Good coverage is important.



eriophyid mites: Blister mites, peach silver mites, and rust mites are all microscopic mites of fruit trees. They overwinter in bud scales and are sensitive to oil, or oil plus Sevin.

brown mites: Overwinter as eggs in protected sites on trees (unlike spider mites, which overwinter on the ground). Oil alone is sufficient for this pest, if it has been a problem.

Diseases Treated by Dormant Sprays

peach leaf curl: Peach leaf curl is only treated by applying a dormant spray, either in fall or spring.

Fungal infections occur during leaf expansion in spring when conditions are cool and moist. The foliage then becomes distorted, discolored, and swollen. If your trees had peach leaf curl last year and you missed the fall application, you can apply copper this spring, up to the point where the green leaf tips emerge.

fire blight: Apply copper to apple/pear at green tip stage. It is OK to mix with 2% oil for insect treatment.

The primary purpose of this treatment is to help reduce the widespread colonization of bacteria onto bark, bud, and related orchard surfaces. Spray all surfaces of the orchard (including trellis posts and other inter-mingled tree crops) as a high volume spray.

Copper Options

Ingredient	Commercial Options	Residential Options	Comments
Fixed coppers:			
basic copper sulfate	Cuprofix Ultra Disperss; Basic Copper Sulfate		Effective, but should only be used before leaf emergence or in the fall
copper oxide	Nordox		
copper hydroxide	Kocide; Champ		
copper oxychloride sulfate	C-O-C-S	Monterey Liqui-Cop	
copper soap	Cueva	Gardens Alive Soap Shield; Bonide Liquid Copper Fungicide; Natural Guard Copper Spray	Has lower metallic copper concentration; safer on plants; effective
Copper sulfate pentahydrate:			
	MasterCop; Phyton		Not as effective

Other News

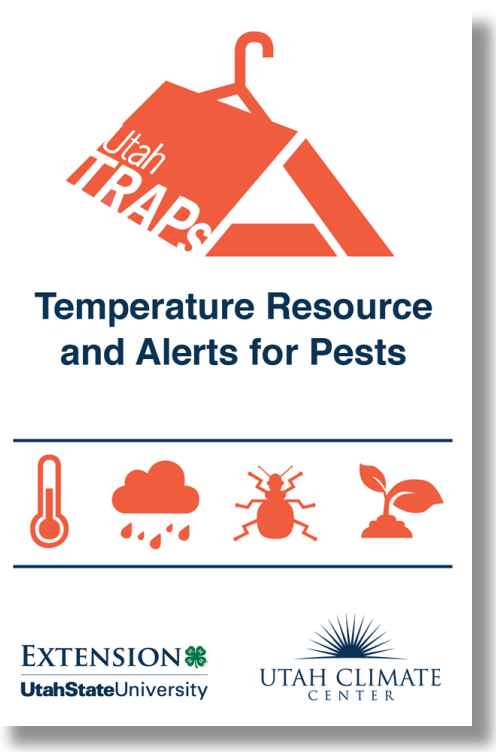
Resources to Help Grow Healthy Crops

Mobile Apps

Fruit PestFinder
This app lists over 90 fruit insect pests, diseases, and beneficial insects. It includes biology and full management recommendations, plus loads of images.

Utah TRAPs
This app links to weather data from over 50 locations in Utah, providing real-time temperature and precipitation information. It also provides current degree days and management recommendations for the major fruit pests.

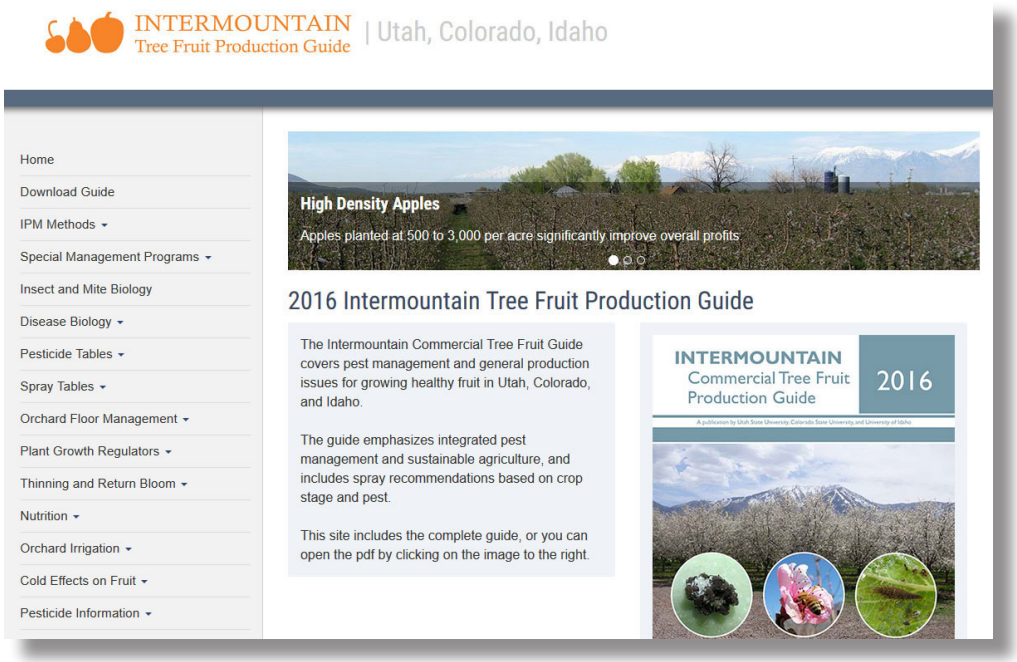
Both apps are free and available for Android (Google Play) and iPhone (App Store).



Commercial Tree Fruit Website

Although hard copies of the Intermountain Commercial Tree Fruit Production Guide will not be updated until 2017, many of the pesticides have been updated for 2016 on the website version of the guide: intermountainfruit.org.

- Look up specific treatments based on crop and crop stage.
- Look up REI and PHI values on a scrolling table.
- Can view on mobile devices.



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