Tree Fruit IPM Advisory

Weekly Orchard Pest Update, Utah State University Extension, **April 5, 2013**

News/What to Watch For:

Inspect your trees to see if your dormant spray (if applied) was successful. Dead eggs (located near the base of buds and the size of a grain of rice), will be black in color, flattened, and flake off. Scale insects will turn whitish in color.

On apple and pear trees, look for old ***fire blight infections*** and prune these out or they will serve as the source of new infections this spring.

Production information: "Frost Protection Strategies," page 2

Bud Stages

The cooler weather to come will slow down bud development. For images of bud stages, **click here** for a pdf fact sheet.

Davis County, Box Elder County, Salt Lake County:
Apples: silver tip - green tip
Apricots: first bloom
Cherries: dormant - swollen bud
Peaches: swollen bud
Pears: dormant - swollen bud

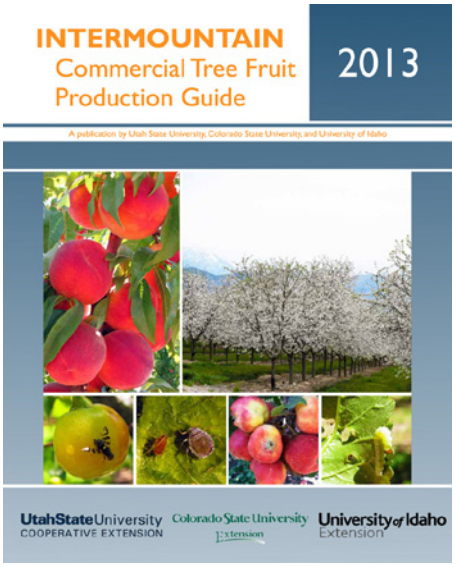
Cache County:
Apples: dormant
Cherries: dormant
Peaches: dormant
Pears: dormant

Utah County:
Apples: silver tip - green tip
Apricot: first bloom
Cherries: dormant - swollen bud
Peaches: swollen bud
Pears: dormant - swollen bud

Weber County:
Apples: silver tip
Apricot: swollen bud to first bloom
Cherries: dormant - swollen bud
Peaches: swollen bud
Pears: dormant - swollen bud

News

The new edition of the Intermountain Commercial Tree Fruit Production Guide is now available to purchase.



Updates for the 2013 edition include:

- all new pesticide rates and comments
- new pesticide registrations
- residual length added (this information can be found after the pesticide name in the spray tables)
- rate in 100 g/acre (where available)
- a table of generic names
- other general updates

Cost: $16.25
To order: click here

Information on Dormant Sprays

Many of you have already applied your dormant spray, but if you have not, there is still time.

The window of opportunity for sprays depends on the bud stage of your target fruit tree. Follow these guidelines:

Apples: swollen bud - 1/2" green
Pears: swollen bud - cluster bud
Peaches/Nectarines: swollen bud - pre-bloom
Apricot: before bloom

When applying, spray trees just until they are dripping to get good application on all the stems. If you are using horticultural oil alone, use a rate of 2% (mixed in water) for best results. For situations where aphids have been real problems in the past, consider adding an insecticide (such as malathion, carbaryl, acetamiprid, etc.) to 1.5-2% oil.

continued on next page

Dormant Spraying, continued from previous page

Dormant Sprays will target the following pests on:

Apple, Pear: aphids, San Jose scale, and fire blight. For fire blight, apply copper up to the green tip stages. Note that it will not KILL the bacteria that causes fire blight, but instead delays or reduces inoculum production in existing cankers.

Peach/Nectarine, Apricot: aphids, peach twig borer (overwintering and emerging larvae), and the disease, coryneum blight. For coryneum blight, apply copper or Bordeaux for control, or where infestations are more severe, use Bravo (chlorothalonil), Echo, or Ziram, up until pre-bloom.

Production Information

Frost Protection Strategies

Often one or two degrees is the difference between a saved or lost crop. For example, if apples are in bloom, and the temperature drops to 25°F for just 30 minutes, potentially 90% of the flowers can be killed (called T90). (For more information on critical temperatures, click here.) No frost protection scheme will be perfect, and the costs range from minimal to the extreme.

The first key to know whether or not to protect the crop is to know which crops are susceptible for the predicted low, and where are the coldest areas of your orchard or site are located. Also, note that weather stations that report forecasting temperatures might be warmer or colder than your area.

Cloth Coverings: This option is only to protect a small number of trees; it is not practical for an orchard. Light sheets, burlap, or frost blankets can provide some protection. (Do not use plastic or heavy blankets as these will soak up moisture that will freeze.) The best way to apply the cover is to drape it over the tree and make sure it reaches the ground to retain all the warmth under the cloth. A wet soil is good at this time of year because it absorbs heat during the day. Don't remove the cloth until late in the morning the next day.

Water: According to research, overhead irrigation can increase temperatures by 4-6 degrees, and under-tree irrigation by 1-3 degrees. Using water is one of the cheapest options, where it is available. The down-side of using water is oversaturating the soil, leaching of nutrients, and runoff. The irrigation must continue until any ice that has formed melts.

Orchard Heater: Heaters can help to gain around 1-3 degrees in an orchard. This is one of the most expensive and lease efficient options. In a larger orchard, they require lots of fuel and labor. About 40-60 heaters are needed per acre, each using about 1 gal of fuel per hour. Only about 10-15% of the heat actually stays in the orchard; the rest is dissipated. Heaters are best used in conjunction with wind machines.

Wind Machines or Helicopters: These devices mix warm air from above with cold air at tree level, and can help to gain around 1-4 degrees in an orchard. A wind machine covers about 10 acres, while a helicopter, although more expensive ($700 - $2,000 per hour), can protect 40 acres, and can bring warm air down from higher levels.

Frost Rescue Spray: A material called Promalin (a plant growth regulator from Valent) has been tested in North Carolina and New York as a rescue spray, applied within 5 hours of a T90 frost event on apples. The treated orchard in NC had a 25% crop while the untreated orchard was entirely lost (a savings of $2,400/acre). They found that the surviving apples grew to a normal size, but were seedless. The Promalin prevented the apples from dropping even though the seeds were dead. Questions remain about the efficacy of Promalin, such as whether it can be used before bloom, how long after a freeze is it effective, and the problems of storing fruit without seeds.

Tree Fruit IPM Advisory
is published weekly by Utah State University Extension

Editor: Marion Murray, marion.murray@usu.edu

click here for archived advisories