



News/What to Watch For:

Look for pear psylla eggs near the base of buds (the size and color of a grain of rice)

Look for aphid eggs (creamy green to black) near buds and in cracks and crevices

Look for old fire blight infections (leaves are usually retained) and prune out

Watch bud development for swelling, indicating approach of delayed dormant treatment timing

Get ready for the monitoring season by purchasing supplies now

Pesticide Updates (Commercial growers)

Movento (spirotetramat, Bayer CropScience) is now registered for a variety of chewing and sucking insects on pome and stone fruits. It has shown to have excellent control for woolly apple aphid, green peach aphid, and san jose scale.

Altacor (rynaxypyr/chlorantraniliprole, DuPont) is now registered for control of many lepidopteran pests on pome and stone fruits. It has been extensively compared to Guthion, and when used in a resistance management program, is nearly as effective.

Delegate (spinetoram, Dow AgroSciences) was registered in fall 2007 for control of a variety of pests on pome and stone fruits including codling moth and peach twig borer. Delegate lasts 14 days, is non-toxic to many natural enemies, and is effective on codling moth.

Belt (flubendiamide, Bayer CropScience) is listed for codling moth and fruit worm on pome fruits and leafrollers on stone fruit. It has moderate efficacy.

A few pre-mixed products for tree fruits have recently been released, but have not been tested by the USU IPM program. The danger of using premixes exclusively over a long period of time is the possibility of the target pest developing cross resistance to two different insecticide classes. So continue to rotate insecticide classes even when using premixes.

- **Voliam Flexi** (thiamethoxam+chlorantraniliprole, Syngenta) is registered on pome and stone fruit for a variety of chewing and sucking insects.
- **Leverage** (imidacloprid+cyfluthrin, Bayer CropScience) is also registered on pome and stone fruits for a variety of pests. This is a restricted use pesticide.

Guthion: As you know, phase-out is in effect, and Guthion is not to be used after 2012. For 2009, the maximum allowable pounds of active ingredient per acre is:

- 3.0 on apple
- 2.0 on pear
- 1.5 on cherry

Insect and Disease Control

Dormant and Delayed-Dormant Treatments

Sprays targeting overwintering eggs and adult insects and diseases should be applied at dormant and/or delayed-dormant timing. The advantages of pest control at these times is that beneficial insects and pollinators are not affected, and oils and other materials for this purpose are relatively inexpensive.

Delayed dormant timing is the period that occurs between green tip and half-inch green. Waiting for this timing rather than at dormancy is beneficial because some insects are more

exposed, such as aphids that will have just started hatching. In addition, the developing ground vegetation will help to prevent runoff.

Usually horticultural oil alone or mixed with a pyrethroid or organophosphate is sufficient. When applying dormant or delayed dormant sprays, make sure you thoroughly cover all bark cracks and crevices. Also, oils should be used when the air temperature is above 40 F and when there is no threat of

Insect and Disease Control, continued

freezing temperature for the following 36 hours.

The dormant and delayed dormant sprays can be effective against:

aphids: horticultural oil alone or with Lorsban* or esfenvalerate at delayed-dormant timing; repeat if infestations were high last year

blister mites: these mites cause tiny galls on the leaves of apple or pear. Apply lime sulfur, endosulfan, oil, or oil with diazinon or Sevin at dormant spray or delayed dormant timing

lygus bug: Lorsban* or endosulfan (Thionex) at delayed dormant timing

peach twig borer: delayed dormant spray of horticultural oil plus malathion, esfenvalerate, Bt, or spinosad targets overwintering larvae as they emerge to find food

pear psylla: use horticultural oil alone or with endosulfan, esfenvalerate, sulfur, kaolin clay, or permethrin; apply two applications starting at dormant timing

San Jose scale: horticulture oil alone or with pyriproxyfen (Esteem), lime sulfur, or methidathion (Supracide). Apply at dormant or delayed-dormant timing.

shothole (coryneum blight of peaches, cherries): copper products at dormant timing, or chlorothalonil (Bravo) at delayed-dormancy

fire blight: copper spray at silver tip stage (late dormant timing) and when temperatures are above 45° (Bordeaux mixture, copper hydroxide, copper oxychloride, copper sulfate). Do not apply copper after 1/4-inch green leaf stage or when drying conditions are slow, as severe injury can occur. Fixed coppers such as Kocide and C-O-C-S can be tank mixed with early season oil sprays, but do not combine copper sulfate alone with dormant oil.

*Restricted Use

Production Information

Get Ready to Start Monitoring

Monitoring for pests is an important component of any IPM program. Ideally, you should monitor once/week through mid-summer, then every other week. These regular inspections will tell you when insects or diseases are active so that pest management can be implemented at an optimal timing.

Some tools for pest monitoring:

- 10-30x **hand lens** for examining small insects or disease infections
- **traps** and pheromone lures (www.greatlakesipm.com/) for monitoring moth insects such as codling moth

We recommend using the “large orange delta traps” for monitoring for moth pests such as codling moth, greater peachtree borer, and peach twig borer because they last for years. Label each trap, and purchase extra sticky liners to last the season.

- **double-sided tape** to wrap around tree limbs to look for scale crawler activity
- a padded stick and a cloth sheet wrapped tightly around a

wire frame or an old window screen, for banging branches and catching dislodged insects. This method of monitoring allows you to quickly find active insects in a large area.

- vials of **alcohol** and tweezers or a small paintbrush, and plastic containers:
collect unknown insects to send to Utah Plant Pest Diagnostic Lab (www.utahpests.usu.edu/upddl) for identification and management information. (Put soft bodied insects in plastic with food source and hard bodied insects in alcohol.)
- helpful **field guides**:
 - Agnello, A. et al. Tree Fruit Field Guide to Insect, Mite, and Disease Pests and Natural Enemies of Eastern North America. Natural Resource, Agriculture, and Engineering Service. 2006. ISBN: 1-933395-02-8
 - Strand, L. Tree Fruit Pest Identification and Monitoring Cards. University of California ANR. 2005. <http://anrcatalog.ucdavis.edu/IntegratedPestManagement/3426.aspx>

Precautionary Statement: Utah State University Extension and its employees are not responsible for the use, misuse, or damage caused by application or misapplication of products or information mentioned in this document. All pesticides are labeled with ingredients, instructions, and risks. The pesticide applicator is legally responsible for proper use. USU makes no endorsement of the products listed herein.

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