



Tree Fruit IPM Advisory: March 18th, 2005

Visits to orchard sites in Box Elder, Davis, and Utah Counties this week indicate that apples, peaches, nectarines, tart/sweet cherries are either starting to break bud or very swollen and ready to shed some bud scales. Apricots, however, are another story--I've heard reports of early bloom in Utah County. Delayed-dormant applications should not be made once bloom has initiated.

Apples and Pears: Some sites are a bit ahead of others, but most apples are at or near *green tip*, which means that the bud is starting to open, revealing the silvery green tips of young leaves. Pears are at early *cluster-bud* at the sites visited in Davis and Utah Counties.

Peaches: Most peach flower buds are at *first-pink* (swollen bud with pinkish color at top), and very few (1% of buds) are at *pink-bud* (bud has opened slightly revealing pink petals within). In some orchards in Utah Co. (which seems to be ahead of Davis and Box Elder Counties), 1/8-inch long leaf tips are visible emerging from leaf buds.

Cherries: Buds are swollen and greenish at the tips, but none of the sweets or tarts that I observed had yet reached true *green-tip* (leaves poking from tips of buds).

Delayed-dormant applications can probably still be made sometime in the next 10-14 days, *depending on weather*. The cold weather is expected to remain for at least a week, it seems. Growers may want to reconsider whether sprays should be applied anytime in the near future, though, with the forecasts for significant rain this weekend and much of next week. Also, be aware that pruning cuts on stone fruits right before significant rain events can sometimes lead to bacterial or fungal infections (e.g., cytospora) at the site of the wound.

Quite a few orchardists have joined the Tree Fruit IPM Advisory list in the last week. For those who have just joined, I'll include last week's introduction and website information.

The *umbrella site* for **IPM, Insect Diagnosis, and Plant Disease** information:
<http://extension.usu.edu/cooperative/ipd/>

The **IPM** site:
<http://extension.usu.edu/cooperative/ipm/>

The **Insects and Their Relatives** site:

<http://extension.usu.edu/insect/>

The **Plant Disease** site:

<http://extension.usu.edu/plantpath/>

The USU pest management **Photo Gallery** (online but not yet comprehensive):

<http://eureka.ext.usu.edu/admin/plugin.cfm?id=2>

Frequently Asked Questions (**FAQ**):

<http://extension.usu.edu/cooperative/ipd/faq.cfm>

Pest Fact Sheets:

<http://extension.usu.edu/insect/factshee.htm>

Recent Slide Shows:

<http://extension.usu.edu/cooperative/ipm/index.cfm/cid.647/>

The Home Orchard Pest Management Guide:

<http://extension.usu.edu/cooperative/ipm/files/PDFDocs/2004HomeOrchardPestManagementGuide.pdf>

Home Use Pesticides:

<http://extension.usu.edu/cooperative/ipm/index.cfm/cid.660/>

Use these websites early and often.

*****Insect and Disease Advisory*****

Late-winter is a good time to consider IPM programs for the coming growing season. Delayed-dormant applications, in particular, are an effective way to suppress certain pest species before they become more troublesome in-season. “*Delayed-dormant*” refers broadly to a tree’s developmental stage, and it has come to be associated with the breaking of dormancy (not really dormant at all). For all the tree fruit varieties grown in Utah, the delayed-dormant spray timing begins around bud-swell. For apples, the delayed-dormant timing is anytime between bud-swell and 1/4-inch green. For pears, the period extends through cluster bud. For peaches and nectarines, the period extends through pink bud (or early popcorn). The application typically is dormant oil (2% by volume), and sometimes an insecticide or fungicide is tank-mixed. Uniform coverage is critical with this spray (spray to drip).

At this time of year, consider purchasing trapping materials (traps, lures), sampling equipment, non-disruptive pesticides (Bt, insecticidal soap, neem oil, spinosad, bactericides, coppers), and/or mating disruption materials. Having the materials ahead of time will allow you to discover pest situations early and suppress them before they

become entrenched. In addition to local nurseries, hardware stores, and other retail outlets, materials can be ordered from www.ipmtech.com and www.greatlakesipm.com.

SAN JOSE SCALE, APHIDS, PEAR PSYLLA, EUROPEAN RED MITES: A horticultural oil (Volck Oil, SunSpray Ultra-Fine, Orhex) provides good control when applied at a 2% dilution (1 gallon of oil in 50 gallons of water). Overwintering eggs laid by aphids, pear psylla, and European red mites, as well as San Jose scale, can be controlled by thoroughly coating all tree scaffold surfaces. Green peach aphid has been a problem at times, and an insecticide application (Asana, Pounce, or insecticidal soap) at first pink might be warranted. Black cherry aphid has also been a recent problem for some sweet cherry orchards. Oil plus Lorsban (chlorpyrifos) should work well at the delayed-dormant timing, but repeated applications with other materials might be warranted in-season, depending on pest pressure.

CAMPYLOMMA BUG: If this insect was a problem for you last year, then a delayed-dormant treatment should reduce the population heading into this season. *Campylomma* feeding causes cosmetic damage to young apples and pears (until the fruit are ½-inch in diameter). It has been shown that pre-bloom and bloom sprays work best for this pest. Lorsban and Carzol (formetanate hydrochloride) are effective options, but Lorsban must be confined to pre-bloom apps. Carzol can be applied during bloom, but care should be taken not to spray when bees are visiting flowers. If you would like to learn more about the *Campylomma* (cam-pil-OH-ma) bug, you can read about it at: <http://extension.usu.edu/cooperative/ipm/files/PDFDocs/CampylommaBug.pdf>

PEACH TWIG BORER: This caterpillar spends the winter in small galleries within the tree cambium. It emerges in early-spring to seek the first flush of new growth. If a grower experienced significant pressure from twig borer last season, tank-mixing *esfenvalerate* (Asana for commercial acreage; Ortho Bug-B-Gon or Ortho Max for homeowners) with horticultural oil at the delayed dormant period has been an effective means of controlling this pest just as the young caterpillars emerge. Should an application be necessary, the timing is well suited to an IPM approach because it is made before bees and spider mites enter the canopy (spider mite flare-ups are common when pyrethroids such as esfenvalerate and permethrin are used). If twig borer was not a significant problem last year, then a pair of bloom-time applications of Bt (early bloom, and again at late-bloom) are very selective, highly effective, and harmless to pollinators.

CORYNEUM BLIGHT (shothole): If you had a problem with this fungal pathogen in your stone fruit trees last year (see pictures at http://extension.usu.edu/plantpath/fruit_diseases/fd_coryneum_blight.htm), then a delayed-dormant application of fixed copper, copper sulfate, captan, or chlorothalonil (Bravo for commercial acreage; Daconil for homeowners) would be advisable. *Petal fall* or *shuck-fall* sprays can be made as well, though copper should not be applied after leaf-out since it can be phytotoxic.

POWDERY MILDEW: This disease is caused by a couple different fungal species, each targeting apple/pears, peach/nectarine, or cherries. In apples and pears, it overwinters

underneath the bud scales, so as buds open and young leaves emerge, they can be exposed to infection. Treatments should begin around *first pink* (Bayleton, Funginex, Rally, Rubigan, Sulfur, Flint, Procure). In peaches and nectarines, the fungus overwinters as mycelia under the bud scales, and treatments should be made around petal fall (Rally, Rubigan, Funginex, Sulfur, Elite, Topsin). In tart cherries, the fungus overwinters as cleistothecia (little spore bundles), which germinate and disperse in spring rains. Monitoring for the first small powdery lesions in mid- to late-spring will determine if and when sprays are needed on tarts (Rally, Rubigan, Funginex, Topsin, Elite, Procure, Sulfur). Sweet cherries generally do not require treatment, but if lesions are visible, a decision to spray can be made at that time.

PEACH LEAF CURL: This disease is uncommon in Utah, but if you had a problem with it last year and did not make a fall treatment for it, then a spring application of copper, chlorothalonil (Bravo or Daconil), or sulfur might be advisable.

FIRE BLIGHT: Last, but certainly not least, is fire blight. If your apple or pear trees (or a neighbor's trees) had symptoms of fire blight last year, then it is critical that you remove all blighted tissue as soon as possible. Look for dark gray flower and/or leaf clusters remaining on the tree and make cuts 18 inches below the infection site. Remove and/or burn the cuttings. Bloomtime treatments of streptomycin (Agrimycin) or oxytetracycline (Mycoshield) will suppress the bacterium from initiating new infections during bloom. I'll again be supplying advisories on site-specific infection periods during bloomtime (<http://extension.usu.edu/cooperative/ipm/index.cfm/cid.646/>).

For more information and pictures of symptomology, visit the USU Plant Pathology webpages: www.extension.usu.edu/plantpath and the factsheets at the Extension IPM website: <http://extension.usu.edu/insect/factshee.htm>.

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