

News/What to Watch For:

Aphid eggs starting to hatch
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Bud Stages

Another cool week means slow bud movement. Warmer weather is around the corner!

Davis, Box Elder, Salt Lake, Weber counties:

Apples: 1/2" green
Apricots: first bloom - bloom
Cherries: green tip
Peaches: pink - first bloom
Pears: bud burst

Cache County:

Apples: silver tip - green tip
Cherries: swollen bud
Peaches: swollen bud - 1/4" green
Pears: swollen bud

Utah County:

Apples: 1/2" green - tight cluster
Cherries: green tip - first white
Peaches: pink - first bloom
Pears: bud burst - green cluster

Grand County:

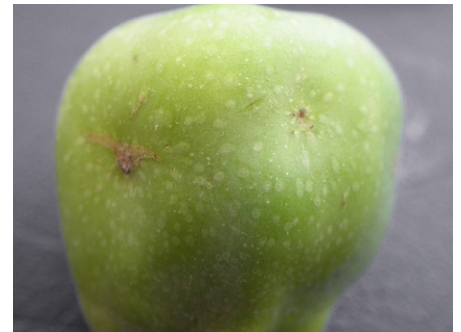
Apples: first pink - open cluster
Cherries: full bloom - petal fall
Pears: full bloom

Insect and Disease Activity/Info

Specific spray information found on last two pages.

Campylomma

Also known as mullein bug, campylomma is actually a beneficial predator. Early in the season, however, young nymphs may feed on fruitlets when no prey is available, causing corky bumps. It overwinters as eggs in woody trees, including apple and pear. Egg hatch occurs pre-bloom, and adults are fully formed by mid May. Many adults migrate on to herbaceous hosts. Over the summer, they feed on thrips, aphids, mites, and psylla.



Scout for nymphs (shown at right) by vigorously shaking flower clusters into a paper cup, or banging a branch over a cloth tray. In general, one nymph/tray or cluster for goldens, and 4 nymphs for other varieties warrants a treatment before, during, or after bloom when bees are not foraging.



Codling moth

Moths will be flying, mating, and laying eggs soon. We will have traps set up to determine first moth flight (called biofix) for various areas across northern Utah. Using this information, we will be able to provide exact starting spray dates.



If you are trapping yourself, traps should be up in the trees by this weekend, except in Carbon and Cache. Traps should be hung as high as possible, in the direction of the prevailing wind. Make sure no debris is blocking the openings.

Degree Day Accumulations and Insect Development

Upcoming Monitoring/Insect Activity

Rosy apple aphid	First egg hatch around 90 DD (base 50)
Green apple aphids	Egg hatch at pink stage
Codling moth	Hang traps at 100 degree days (base 50) First flight at 190-260 DD
Green peach aphid	Egg hatch at full bloom
European red mite (rare)	First egg hatch around 135 DD (base 50)
Campylomma bug	Egg hatch begins at first pink (apples)
White apple leafhopper	Egg hatch begins at first pink (apples)

Degree Day Accumulations

March 1 - Tuesday, April 14

County	Location	Codling Moth, Peach Twig Borer (Base 50)	Western Cherry Fruit Fly (Base 41)
Box Elder	Perry	92	274
Cache	North Logan	51	172
	Providence	---	---
	Smithfield	41	158
Carbon	Price	61	232
Davis	Kaysville	89	279
Salt Lake	Holladay	107	339
	West Valley City	95	333
Tooele	Erda	81	267
	Grantsville	---	---
	Tooele	82	328
Utah	Alpine	90	303
	Genola	115	348
	Lincoln Point	93	287
	Orem	95	304
	Payson	105	317
	Provo	109	345
	Santaquin	96	294
Weber	Pleasant View	81	254

“Base 41” and “base 50” refer to the lower temperature threshold at which certain insects develop. For example, no codling moth development occurs below 50 degrees.

Production Information

Commercial Orchardists: Using GF-120 for Cherry Fruit Fly

Yes, I know that cherry fruit fly sprays are a little down the road, and that there are probably too many other things on your plate, but planning ahead is the key to successful pest management! With the right understanding and tools, the use of GF-120 to control cherry fruit fly is a safe and effective option.

GF-120 is a bait that combines the active ingredient (a.i.), spinosad, with an attractive molasses-like treat. Spinosad is the same a.i. as in Success and Entrust, but here it is used at a much lower concentration and different formulation. GF-120 is approved for use in organic production, and can be applied up to the day of harvest. It works by killing the adults, not the larvae within the fruit.

Because it is a bait formulation, the application method must produce large droplets on the tree so that they will last longer and be more effective. The droplets do not need to cover the entire tree. Fruit flies are thorough foragers, and will be attracted to the bait from several yards away.

Application Methods

GF-120 should be applied with an ultra low-volume sprayer. (Standard airblast sprayers should not be used as they produce a fine mist.) A 10 to 15-gallon spray tank with auxiliary sprayer and 12V pump can be mounted onto a four-wheeler. Swiveling nozzles (to account for different sized trees, see above right) are mounted on either side, or a double swivel nozzle body can be used.

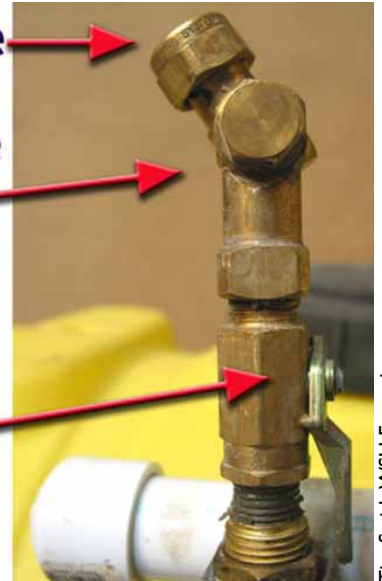


Tim Smith, WSU Extension

One example of an ATV-mounted sprayer with nozzles on either side.

Because the product is thick and gooey, it should be mixed outside the tank first (one recommendation is to mix the product in a five-gallon bucket with an electric drill).

**D2 Nozzle
(or D1)
no core
Swivel
Nozzle
Body
1/4 Turn
Plug
Valve**



Tim Smith, WSU Extension

To apply, the applicator drives down alternate rows at about 6-7 miles an hour.

The sticky globs of the bait last 7 days, but should be applied immediately after a rain on dry trees.

GF-120 won't provide 100 percent control if there is always outside insect pressure. Use yellow sticky traps to monitor for pest population size. If you know you have outside pressure from backyard trees, get your closest neighbors to apply the product, or apply it for them! Also, you may consider one application of Provado (imidacloprid) near harvest to kill worms in the fruit for the first 1-2 years while you get your GF-120 program started.

Advantages of GF-120:

- highly effective after 2 years of use
- applied with a four-wheeler, which saves gas
- cheaper than conventional insecticides; the bait costs about \$20/acre, including application cost
- safe on natural enemies and the environment (organic)
- thorough coverage is not necessary
- application time is quick

Disadvantages of GF-120 (all can be overcome!):

- must use at least 2 years to be effective
- must make sure pressure from neighboring trees is low
- must reapply every 7 days
- must reapply after rain

To learn more about GF-120 and application methods, [click here](#) for information from WSU Extension faculty, Tim Smith.

Bud Phenological Stages

Apple



Pear



Peach



Cherry



Apricot



Spray Materials - Commercial Applicators

For delayed dormant timing, and pre-bloom timing

Target Pest	Host	Chemical	Example Brands	Amount per acre	REI	Comments
Aphids	apple, cherry, peach	hort. oil alone or with: chlorpyrifos pyriproxyfen	Lorsban Esteem	6 gal 4 pints 10-16 oz	varies 4 d 12 h	good coverage essential
Blister mite	pear	hort. oil with: carbaryl	Sevin	4 gal 4 pints	4 h 12 h	apply at pre-bloom timing
Pear psylla	pear	hort. oil with: esfenvalerate lime sulfur kaolin clay permethrin lamda-cyhalothrin	Asana Surround Ambush, Pounce Warrior	4-6 gallons 3 qts 1 pint 1 gal see label 2.5-5 oz	varies 12 h 4 hr 12 hr 1 day	good coverage essential; use 2% oil at bud-burst; 1% after that Surround (organic) must be applied up to 3 times before first bloom.
San Jose scale	pome and stone fruits	hort. oil alone or with: lime sulfur pyriproxyfen methidathion	Esteem Supracide	6-12 gallons	varies 12 h 2-14 d	good coverage essential
Thrips	light-skinned apples, nectarines	endosulfan spinosad	Thionex Success	4 lb 4-8 oz	24 h 4 h	apply just before bloom Thionex will also control lygus and campyloomma; toxic to bees
Coryneum blight (shot-hole)	stone fruits	copper sulfate fixed copper chlorothalonil ziram	COCS, Kocide, etc. Bravo, Echo Ziram	varies varies 3-4 pints 6-8 lbs	1 d 1 d 12 h 48 h	copper can be injurious to plant tissues; fixed copper less so. Do not use after green tip stages. Be sure tank is always agitated during sprays.
Fire blight	apple, pear	fixed copper	many	varies	1 d	do not apply copper after green tip stage because fruit russetting may result

Spray Materials - Residential Applicators

Note that these treatments are only recommended if you know you have the particular pest in your trees.

delayed-dormant timing and pre-bloom timing

Target Pest	Host	Chemical	Example Brands	Comments
San Jose scale, aphids	pome and stone fruits	hort. oil alone or with: bifenthrin malathion permethrin	Ortho bug-b-gone, Ortho Max, etc. Malathion Bug Stop, Spectracide, etc.	only 1 application
Pear psylla	pear	hort. oil with: bifenthrin kaolin clay malathion permethrin	Ortho bug-b-gone, Ortho Max, etc. Surround Malathion Bug Stop, Spectracide, etc.	Best to treat before egg-laying and when adults are detected. Surround (organic) must be applied up to 3 times before first bloom.
Blister mites	apple, pear	hort. oil with: carbaryl lime sulfur	Sevin variety	Only a single application is needed
Thrips	nectarine	spinosad	Bonide, Ferti-Lome, Green Light	may require 2 applications 7 days apart
Coryneum blight (shot-hole)	stone fruits	copper sulfate fixed copper	Basic Copper, Microcop COCS, Kocide, etc.	copper can be injurious to plant tissues; fixed copper less so. Do not use after green tip stage.
Fire blight	apple, pear	fixed copper	many	do not apply copper after green tip stage because fruit russetting may result

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.

Tree Fruit IPM Advisory

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