

News/What to Watch For (similar to previous advisory):

Look for pear psylla eggs near the base of buds (the size and color of a grain of rice), and aphid eggs (creamy green to black) near buds and in cracks and crevices

Look for old fire blight infections (leaves are usually retained) in apple/pear, and coryneum cankers in peaches, and prune out

Production information: "Residential Orchards: Pruning mature fruit trees," page 3

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Bud Stages

Most bud development in northern Utah occurred during late Feb. and the warmer weeks of March. But all has stopped for the past few weeks and will remain slow for another.

Davis County, Box Elder County, Salt Lake County:

Apples: silver tip

Apricots: swollen bud

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

Cherries: dormant - swollen bud

Peaches: swollen bud

Pears: dormant - swollen bud

Weber County:

Apples: silver tip

Apricot: swollen bud

Cherries: dormant - swollen bud

Peaches: swollen bud

Pears: dormant - swollen bud

Insect and Disease Activity/Info

It is approaching time in northern Utah for delayed dormant sprays. These should be applied if you have perennial problems with aphids, scale, or peach twig borer.

Apples: swollen bud - 1/2" green

Pears: swollen bud - cluster bud

Peaches and Nectarines: swollen bud - pre-bloom

When applying, spray trees just to run-off to get good application on all the stems.

Coryneum blight of peaches, cherries (shothole):

Now is a good time to inspect your trees for overwintering cankers. They will be centered at the bud (as shown at right), and when the sap starts running in the tree, the cankers will appear gummy. Prune these out and remove clippings to reduce potential for spread. Apply copper or Bordeaux for control, or where infestations are more severe, use Bravo, Echo, or Ziram.



Fire blight:

Fire blight is caused by a bacterium, *Erwinia amylovora*. Like coryneum blight, scout your apple and pear trees for cankers (areas of dead tissue) and prune these out BEFORE the weather starts to warm. Once temperatures rise, the bacteria become active and can easily be spread with pruning.

Copper may be applied at the silver tip to green tip stages as one option in managing fire blight. Note that it will not KILL the bacteria, and copper alone will not prevent floral infections. The copper does, however, delay or reduce inoculum production in existing cankers.

Insect and Disease Information, continued from previous page**Peach Twig borer:**

As peach buds begin to swell, overwintering peach twig borer larvae emerge from their hibernacula and crawl to feed on buds and leaves, and eventually bore into succulent tip growth.

During this time of exposure is a good opportunity for control.

Bt (*Bacillus thuringiensis*) or spinosad (Success, Entrust) can be used pre- and post-bloom, and should be applied twice, 7 days apart.

Degree Day Accumulations and Insect Development

Upcoming Monitoring/Insect Activity

Pear psylla	Adults active 31-99 DD; egg-laying at 40-126 DD (base 41)
Rosy apple aphid	First egg hatch around 90 DD (base 50)
Codling moth	Hang traps at 100 degree days (base 50) First flight at 190-260 DD
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 - Wednesday, April 1

County	Location	Codling Moth, Peach Twig Borer (Base 50)	Western Cherry Fruit Fly (Base 41)
Box Elder	Perry	58	182
Cache	North Logan	24	86
	Providence	30	76
	Smithfield	24	85
Carbon	Price	58	152
Davis	Kaysville	60	201
Salt Lake	SLC	69	275
	West Valley City	63	195
Tooele	Erda	43	228
	Grantsville	47	224
	Tooele	51	230
Utah	Alpine	66	220
	Genola	80	260
	Lincoln Point	67	222
	Orem	68	230
	Payson	75	239
	Provo	73	236
	Santaquin	71	225
Weber	Pleasant View	55	175

“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

Residential Orchards: Pruning Mature Fruit Trees

Annual pruning of fruit trees helps to maintain vigor, tree health, and fruit size. Stone fruit trees should be pruned just before bud break up to bloom. If they are pruned too early, they are more susceptible to sunscald or winter injury. Apple trees, which are hardier, can be pruned in winter.

When pruning any tree, never remove more than 1/3 of the canopy. In general, remove:

- rubbing branches
- branches that are growing into the center of the tree, straight up, or straight down
- spindly branches
- broken or dead branches
- limbs with cankers
- suckers and sprouts: Retain a small number of well-placed suckers within the tree to keep new growth closer to the center of the tree and to replace old scaffold limbs as they are removed.

Also, head back over-long branches that have no side-branching to encourage lateral growth. Branches that are growing upward should be cut back to lateral twigs to maintain a manageable tree height.

When pruning large limbs, be sure to make a proper cut. Do not cut flush to the tree, but rather, angle the cut just outside the branch collar (the swollen area at which the limb meets the tree). Cutting into the root collar inhibits callus formation and wound healing.

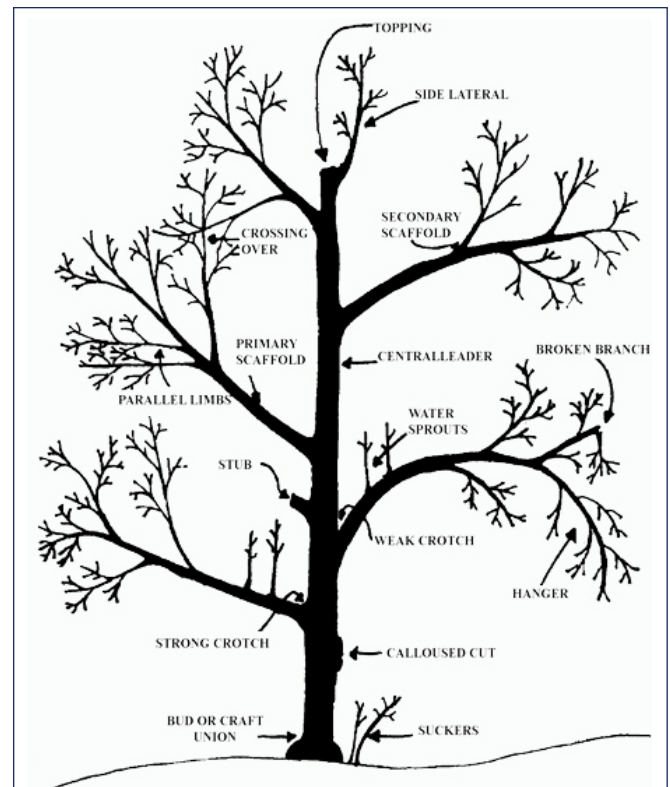
Smaller limbs should be cut back to another lateral branch, twig, or bud rather than cut off at a random point. "Stubs" will not heal, and when the wood dies, are susceptible to decay fungi that may become opportunistic and enter healthy wood.

Stone fruits:

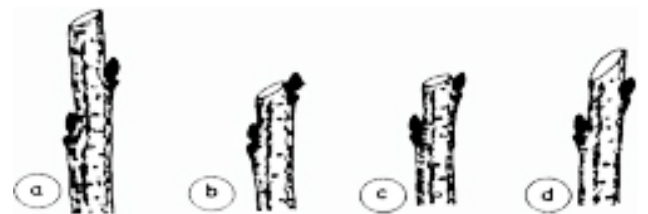
For peaches/nectarines, the majority of fruiting occurs laterally on long branches, with some on short branches. For cherries, apricot, and plum, most fruiting occurs laterally on short branches or spurs, with some on long branches.

Most cherries and plums are trained to the central leader system, while peaches/nectarines can be trained to the central leader or "open center" position.

Keep in mind, however, that in the open center system, the leader is removed, and scaffold branches form the bulk of the tree. For backyard trees, the danger is that branches that are



Pruning and tree terminology



Examples of pruning cuts: 1) too long; 2) too short; 3) ideal; 4) too slanted

too heavy with fruit are prone to breakage. In addition, more of the tree is exposed to sunlight and possible sun scald.

Pome fruits:

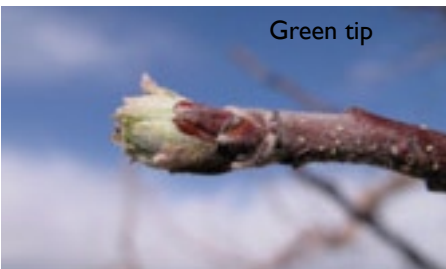
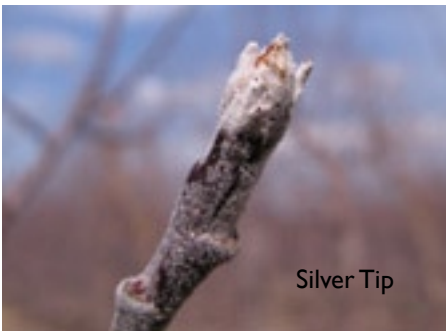
The majority of fruiting occurs on terminals of short branches or spurs. These trees can be trained to:

- central leader
- modified central leader
- open center
- espalier
- fruit bush

For more information on pruning the orchard, see the [USU Fact Sheet](#).

Bud Phenological Stages

Apple



Cherry



Peach



Pear



Apricot



Spray Materials - Commercial Applicators

For dormant and delayed dormant timing

Target Pest	Host	Chemical	Example Brands	Amount per acre	REI	Comments
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
Aphids	apple, cherry, peach	hort. oil alone or with: chlorpyrifos	Lorsban	6 gal 4 pints	varies 4 d	good coverage essential
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 l gal see label 2.5-5 oz	varies 12 h 4 hr 12 hr 1 day	good coverage essential Surround (organic) must be applied up to 3 times before first bloom.
Pearleaf blister mite	pear	hort. oil with: carbaryl	Sevin	4 gal 4 pints	4 h 12 h	
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 or had a problem the previous year.

Dormant and delayed-dormant timing

Target Pest	Host	Chemical	Example Brands	Comments
San Jose scale, aphids	pome and stone fruits	hort. oil alone or with: esfenvalerate malathion permethrin	Ortho bug-b-gone, Ortho Max, etc. Malathion Bug Stop, Spectracide, etc.	
Pear psylla	pear	hort. oil with: esfenvalerate 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.
Pearleaf blister mite	pear	hort. oil with: carbaryl lime sulfur	Sevin variety	Only a single application is needed
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 stages.
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.

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