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FRUITS & VEGETABLES

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Backyard Orchard: Stone Fruits no. 2.804

by C.E. Swift and H.J. Larsen ¹

Quick Facts...

Peach twig borer and Oriental fruit moth can cause severe twig dieback and damage to fruit.

Treat peach, apricot, nectarine and plum trees in July and August to control peach tree borer (crown borer). The best control is a dormant or delayed dormant spray shortly before bloom.

Cytospora canker is a fungus problem that results in amber to brown gum on trunk or branches.

Cherries need insecticide sprays from mid-June through harvest where Western cherry fruit fly occurs.

Insect control on fruit trees should begin with prebloom sprays (dormant or delayed dormant) for scale insects, aphids and mites. Applications of a dormant Superior or Supreme type horticultural oil in combination with Diazinon will control these insects if applied during late winter or early spring, before buds open. Do not apply dormant oil if a heavy freeze is expected; damage to the tree could occur. Oil sprays must have ample time to dry before freezing weather, at least 10 to 12 hours.

Oil sprays speed up spring bud development and reduce the bud's ability to withstand cold temperatures. It is best to delay dormant oil sprays until buds start to break. Base the amount of spray on the size of the tree (except when mentioned otherwise). A poorly pruned tree with dense foliage may need up to double the amounts shown below.

<u>Tree Diameter x Height</u>	<u>Amount of Prepared Spray</u>
20 x 20	4 gallons
15 x 15	3 gallons
10 x 10	2 gallons
5 x 5	1 gallon

Peaches, Nectarines, Apricots, Cherries and Plums

The best control for peach twig borer is a dormant or delayed dormant spray shortly before bloom. Avoid summer applications of insecticides unless peach twig borer is a problem. Sprays are most effective if applied the last of May or the first of June, when the pits of peaches are beginning to harden. Make a second application in mid-July for the second generation.

Protect stone fruit trees from peach tree borer (crown borer) with two spray applications, one during early July and the other during early August. Direct these sprays at the base of the tree. Check stone fruit trees for peach tree borer as soon as the soil thaws in the spring if July and August treatments were not made the preceding year (see August 1-10). Treat with PDB if peach tree borer damage is noted. Avoid Sevin (carbaryl).

Dates indicated are approximate. They vary with elevation, exposure and variety. Stage of bud development (i.e., pink stage) is a more dependable way to schedule needed sprays.

Late March: Delayed Dormant

Mites, aphids, twig borer, cytospora canker.

What: Prune trees, then apply dormant oil plus Diazinon to control twig borer, aphids and mites. On peaches and nectarines, add Benlate as a preventive control for cytospora canker (gummosis). Cytospora canker is a fungus problem that results in an amber to brown-colored gum on trunk or branches. Do not confuse it with peach tree borer, an insect that leaves a clear to black ooze containing wood or sawdust chips at or below ground level.



To control cytospora canker during tree dormancy, prepare a fungicide paint by mixing 2 tablespoons of Benlate (benomyl) 50WP in 16 fluid ounces of shellac thinner (diluted one part denatured alcohol thinner to one part water) with a small amount of white interior latex paint. Diluted white latex paint (33 to 50 percent water) or horticultural spray oil also can be used as a carrier liquid. Reduce the concentration of Benlate to 1/2 to 1 tablespoon Benlate 50WP per gallon of carrier liquid if this canker treatment is made while the trees are in leaf. The use of diluted white latex paint on the trunk base up to the lower branches helps reduce sun scald ("South West Injury"). Sun scald increases the severity of cytospora canker.

How: Use 5 to 6 tablespoons Superior or Supreme dormant oil plus 1 tablespoon Diazinon 50 percent wettable powder (WP), or 2 teaspoons 25 percent Diazinon liquid in sufficient water to make 1 gallon of spray. For cytospora control, add 1 to 2 teaspoons of Benlate 50WP (benomyl) in a pint (16 fluid ounces) of diluted shellac thinner (1 part thinner and 1 part water). Paint or spray directly onto cytospora infections.

This fact sheet contains up-to-date information for homeowner control of insect and disease problems on tree fruits. Insect and disease controls have been combined in an easy-to-follow format. Recommended chemicals usually are readily available to homeowners. In some cases, the concentration of the product listed and what is available locally may differ.

*Always read the label directions. Labels often are updated yearly or more often. If there is a conflict between recommendations in this fact sheet and the product label, **always follow the product label.***

Restricted use chemicals — for use by certified applicators only — are not included.

Early April: Pink Stage

Aphids, mites, Oriental fruit moth², twig borer.

What: Pink stage is when the flower buds start to show pink, before the tree blooms. If you missed the delayed dormant spray, apply a spray to control twig borer, aphids and mites.

How: Spray with 3 tablespoons Superior or Supreme oil plus one of the following: 1 tablespoon Diazinon 50WP, 2 teaspoons 25 percent Diazinon liquid, or 1 tablespoon Thiodan 50WP, per gallon of water. If you applied a dormant spray and need to treat only for twig borer and/or Oriental fruit moth, apply *Bacillus thuringiensis* (aizawai or kurstaki strain), such as Dipel and Thuricide, at 1/2 teaspoon per gallon of spray.

Mid-April: Petal Fall

Aphids, cytospora, powdery mildew, rusty spot, coryneum blight, Oriental fruit moth, twig borer.

What: For aphids, make another application of Diazinon to which a surfactant (e.g., liquid dishwashing soap) has been added. Coverage inside the leaf curls is very difficult but necessary for control.

For cytospora, make a second application of Benlate on peaches and nectarines. See "Late March" for description.

Apply micronized wettable sulfur or Benlate to control powdery mildew (rusty spot) on peach if this has been a problem in the past.

The term "rusty spot" is used because dark-reddish or rusty-brown spots are present on the fruit as it begins to mature. It affects only immature peach and nectarine fruit until the pits have hardened, in late June or early July. This problem is severe when high humidity and showers occur during spring and early summer. This disease apparently is associated with apple powdery mildew. Its incidence is highest in peach plantings within 1/4 mile of highly mildew-susceptible apple varieties.

A second powdery mildew disease, *Sphaerotheca* mildew, has been found in western Colorado. It differs from rusty spot in affecting the shoots and leaves as well as the fruit of peach, nectarine and apricot. Rusty spot does not affect the shoots and leaves of these hosts, and it is responsible for the red spider-web discolorations on apricot fruit, not a white felt-like fungal mat on the fruit surface that *Sphaerotheca* produces. *Sphaerotheca* overwinters in infected buds of peach, nectarine and apricot. Control is essential when it is observed. Infections typically appear on fruit beginning in early June and on shoots in late June to mid-July. These become most obvious by mid- to late August, just

References

For additional information, see the following fact sheets:

- 2.800, Backyard Orchard: Apples and Pears.
- 2.914, Coryneum Blight.
- 5.507, Spider Mites.
- 5.520, Stone Fruit Insects.
- 5.560, Pear Slugs.
- 5.566, Peach Tree Borer.
- 5.569, Insect Control: Horticultural Oils.

For more recommendations, see XCM-41, Colorado Tree Fruits: Pest and Crop Management Guide.

All can be obtained from your local Colorado State University Cooperative Extension county office or The Other Bookstore (Cooperative Extension Resource Center) at (970) 491-6198.

around harvest. Damage to the fruit is much more severe than that caused by rusty spot. Warm, humid summer weather is particularly favorable for development of this disease.

Coryneum blight appears on young peach, nectarine and apricot leaves and twigs (occasionally on sweet cherries) as small red spots that enlarge and become purple with a whitish-tan center. These spots eventually drop out of the leaf blade, hence the name "shothole disease."

Spots may first appear on fruit 10 to 12 weeks prior to harvest and continue to appear through pit hardening (late June). Infections that occur on fruit two to three weeks before harvest can develop rapidly to produce sunken rot spots up to 1/2 inch in diameter and depth. This disease is most severe in years with frequent showers in late spring and summer. Treat with Ziram, Captan or fixed copper at petal fall and just before wet weather periods through June.

Sweet cherry leaves are similarly affected with a fungus called *Coccomyces*. This causes small purple spots on the upper leaf surface. Tissue in the center of the spot dies and sometimes falls out, leaving a shothole appearance. This problem is more common during moist conditions.

How: For aphid control, use 1 tablespoon Diazinon 50 percent wettable powder (WP) or 2 teaspoons 25 percent Diazinon liquid in sufficient water to make 1 gallon of spray. Add three drops of a liquid dishwashing detergent to each gallon of mixed spray.

For cytospora control, use 1 tablespoon of Benlate 50WP (benomyl) with each gallon of water. Rusty spot sprays include Benlate 50WP at 1 teaspoon or micronized wettable sulfur at 3 tablespoons per gallon of water. Apply at seven to 10-day intervals beginning with petal fall and continuing through pit hardening in June or July.

For *Sphaerotheca*, apply the same materials at the same intervals from early June and through August. Alternate Benlate with sulfur to avoid resistance problems. Do not use sulfur on apricots.

For coryneum blight control, spray trees with 4 teaspoons of Captan 50WP or 5 teaspoons of Ziram (76 percent wettable powder) per gallon of water. Use fixed copper in accordance with label directions.

Apply a spray of *Bt* (aizawai or kurstaki strain), such as Dipel and Thuricide, at the rate of 1/2 teaspoon per gallon of spray, if Oriental fruit moth and/or twig borer are a problem.

June 10

Twig borer, Oriental fruit moth.

What: Apply an insecticide to help prevent twig borer and Oriental fruit moth damage to apricot, plum, nectarine and peach fruit. Young larvae feed on terminals and the stem end of fruit.

How: Use 1 tablespoon Diazinon 50WP, 2 teaspoons 25 percent liquid Diazinon, or 1 tablespoon Thiodan 50WP in each gallon of water.

June-August

Peach tree borer (crown borer), Western cherry fruit fly, twig borer, Oriental fruit moth, pear or cherry slug, cytospora canker, Sphaerotheca mildew.

What: Apply an insecticide to control peach tree borer. This insect bores into the lower trunk of peach, apricot, cherry, nectarine and plum trees and can kill the tree.

Applying these materials at the time recommended may not comply with the recommended preharvest interval (PHI) prior to harvest of the crop. In this case, apply the treatments early to allow for the proper number of days.

Apply an insecticide to help control twig borer, Oriental fruit moth on apricot and peach, and Western cherry fruit fly on cherry (see June). This

Table 1: Preharvest intervals.

Thiodan 3 E.C., Endocide 3 E.C.	
Peach, apricots, nectarines	21 days
Plums, prunes	7 days
Diazinon	
Peaches	20 days
Apricots, nectarines, cherries, prunes, plums	10 days
Thiodan	
Peaches, apricots, nectarines	30 days
Prunes and plums	7 days

Fall Treatment

Coryneum blight.

What: If coryneum blight was severe, spray after leaves drop.

How: Use Bordeaux mixture or copper fungicides. Bordeaux mixture is available from some nurseries and garden shops. Follow the directions when diluting with water. Apply fixed copper (53 percent) at the rate of 2 to 3 teaspoons per gallon of water.

treatment also helps control pear and cherry slug, the larval stage of a large-bodied fly. The larva resembles a slug and feeds on leaves, stripping the green tissue and leaving only the veins.

Scrape cytospora cankers down to the wood, then treat with a Benlate (benomyl) paint. Treated areas should be rounded at the top and bottom for more rapid healing. This protective paint can also treat large pruning wounds or mechanical injury.

Where *Sphaerotheca* mildew occurs, protect peaches, nectarines and apricots with weekly mildew sprays as described below.

How: For peach tree borer control, use one of the following with sufficient water to make 1 gallon of mix: 1 tablespoon Thiodan 3 E.C. (Endocide 3 E.C.) or 1 1/2 tablespoons Thiodan 50WP. Apply only to the trunk and soil around the base of the tree. **Do not** contaminate the fruit. Use approximately 1/2 gallon of material per tree. Observe the necessary PHI.

For twig borer and Oriental fruit moth control, spray fruit and foliage. Use one of the materials recommended for the June twig borer spray. Observe the necessary preharvest waiting period.

Control Western cherry fruit fly with Diazinon, Malathion or Sevin. Begin sprays around mid-June and apply every 10 to 14 days until harvest. Be sure to observe the preharvest waiting period for these materials.

For cytospora canker control, see treatments under late March. Reduce the Benlate rate to 1/2 to 1 tablespoon Benlate 50WP per gallon of liquid.

Apply sprays of 1 teaspoon of Benlate or 3 tablespoons wettable sulfur per gallon of spray each week where mildew is found on leaves of peach or nectarine. Do not use sulfur on apricot. Avoid using sulfur on peach and nectarine when temperatures are or will be above 85 degrees F within 24 hours of application.

Harvest Period

Coryneum blight.

What: If coryneum blight spots are present and showers occur just before harvest, spray with Captan. Note the required four-day re-entry period between Captan applications and re-entering the orchard.

How: For coryneum blight, spray with Captan 50WP at the rate of 4 teaspoons per gallon of water.

August 1-10

Peach tree borer.

What: Second treatment for peach tree borer (crown borer).

How: See June-August application.

If July and August treatments were missed or inadequate, masses of clear to black gum with minute sawdust-like bark chips may exude from around the base of the tree. The damage usually occurs from 6 inches above to 2 to 6 inches below the soil surface. Check for borer larvae if this occurs. These white worms with brown heads feed on living tissue as they tunnel beneath the bark. If larvae are noted, apply paradichlorobenzene (PDB) to fumigate the root system. You can use PDB in the spring, but early fall treatments are preferred. Apply the crystals in a ring completely encircling the trunk, not closer to the bark than 1 inch nor farther away than 3 inches. Cover the crystals with soil to confine the PDB gas. Do not apply the treatment when soil temperature is below 60 degrees. Follow label directions for the amount of material to use per tree.

A treatment for peach tree borers in July and August as indicated previously should prevent root damage and eliminate need for PDB treatment.

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² Oriental fruit moth is limited mainly to the Palisade and East Orchard Mesa areas of Mesa County.