Coryneum Blight

The leaves of your fruit tree are tattered and holey, and there are gummy lesions on its twigs and fruit. You may have coryneum blight, also known as shot hole.

1. **Leaf spots and holes caused by *Wilsonmyces carpophilus*. (Left image)**
2. **Darkened bud with dark, gummy, sunken bark due to *Wilsonmyces carpophilus*. (Right image)**



Photo by Clay Wingfield, University of Arkansas Division of Ag



Photo by Utah State University

Coryneum blight is caused by a fungal pathogen known as *Wilsonmyces carpophilus*. The fungus has been known at various times as *Coryneum beyerinckii*, *Coryneum carpophilum,* and *Coryneum laurocerasi*, hence the disease being called coryneum blight. The symptoms are often most severe on apricots followed by peaches and nectarines, but the pathogen can infect a few related species, including almonds and cherry laurel. The pathogen can also infect fruiting cherry trees, Japanese flowering cherry trees, fruiting plum and prune trees, and ornamental plum trees, but these usually only get infected when near more susceptible hosts during years with particularly cool, wet weather.

Coryneum blight can infect branches as well as all above ground tender parts of the tree, including the leaves, buds, shoots, and fruit. Symptoms of coryneum blight on the leaves start as round to oval lesions whose centers separate from the rest of the leaf and eventually fall out. The round to oval holes in the leaves are what give the disease its other common name, shot hole. One must be careful when considering if coryneum blight is the cause of this symptom though because the susceptible tree species will develop a shot hole appearance from many other stressors as well. These stressors can include boron toxicity, copper spray injury, bacterial diseases such as caused by *Pseudomonas syringae pv. syringae* or *Xanthomonas arboricola pv. pruni*, viral diseases such as caused by prunus necrotic ringspot virus, other fungal diseases such as caused by *Blumeriella* species or *Cercospora* species, or environmental stress.

When coryneum blight attacks the buds, it will spread down the twig or branch and often girdle it. The infected area will darken, with the bark often becoming sunken. An infected bud will be noticeably darker than healthy buds and will often exude gum. New growth will show brown to reddish patches where the infection has spread on the otherwise green sprout.

3. Reddish brown lesions on a peach shoot infected by *Wilsonmyces carpophilus*.



Photo by Sherrie Smith, University of Arkansas Division of Ag

Fruit afflicted by coryneum blight will initially have small purple spots on the fruit, which age to a white or gray color and may start exuding gum from the old lesions. Early infections may cause the fruit to split because the dead spots no longer grow, making for uneven growth of the fruit. While a mildly infected ripe fruit can have the infected area cut out, the disease will reduce the quality and quantity of a harvest.

Coryneum blight is favored by cool, wet weather. The fungus can cause infections even at chilly temperatures as low as 36°F (~2°C) if the plant parts stay moist for at least 24 hours. At 77°F (25°C), it only takes 6 hours of continuous moisture for a plant part to become infected. This fact can be particularly problematic for trees with dense canopies where air flow and sun won't penetrate to the inner part of the tree, allowing for extended

periods of moisture withing the canopy. With that in mind, even if the weather isn't cool, one should be watching out for symptoms of this disease if there has been recent wet weather.

4. **Young apricots with purple spots, some with white centers. These spots are caused by *Wilsonmyces carpophilus*. (Left image)**
5. **Gummy peach fruit with coryneum blight. (Right image)**



Photo by Jack Kelly Clark, UC IPM



Photo by Clay Wingfield, University of Arkansas Division of Ag

Don't let sprinklers hit the tree as this can help keep the above ground parts of the plant moist and spread the disease through water splash. Drip irrigation, a soaker hose, tree water bags, or manually watering completely around the tree and out to twice the area of the canopy without hitting the trunk or other above ground parts all are better options.

To help prevent the disease from spreading, one should thoroughly inspect their trees and remove and dispose of any infected twigs and branches during the dormant season. The dormant season is also the time to prune trees to shape them and increase the air flow within the canopy (which reduces how long plant parts will stay moist). Continue to prune out diseased branches as they appear during the growing season. Sterilize pruning tools with a solution of 10% bleach (1 part household bleach, 9 parts water). Be sure to mix the bleach solution shortly before pruning because this solution degrades and

becomes ineffective approximately 2 hours after combining the water with the bleach. Any cut wood should be bagged up and removed from the location or immediately burned.

6. Gummy and cracked peach fruit with coryneum blight.



Photo by Clay Wingfield, University of Arkansas Division of Ag

Homeowners may use chlorothalonil products listed on page 115 of the Arkansas MP154 to treat for coryneum blight. For fruit trees, make sure the fungicide is one of the products labelled for application on fruit. Then after leaf drop in the fall if the disease was severe this year, apply the chlorothalonil product of choice or apply the Bordeaux mixture (a mixture of copper(II) sulfate and quicklime). Whichever product was applied after leaf drop can be reapplied once or twice more (depending on the expected amount

of disease pressure in the spring) to their trees in the mid-late winter before bud swell. Always read and follow the directions on the product's label.

For commercial growers of susceptible plants, applying fungicides in the fall after 50% leaf drop will help protect the buds during the dormant season. Commercial growers should make one or two more treatments (depending on the expected amount of disease pressure in the spring) to their trees in the mid-late winter before bud swell. During the growing season, preventative fungicide applications should be used when precipitation is expected. Arkansas commercial growers may refer to the section on fruit tree diseases in the Arkansas MP154, pages 71-78 for fungicide recommendations for peaches, nectarines, and plums. For susceptible ornamental trees, Arkansas commercial growers may refer to page 95 of the Arkansas MP154. Always read and follow the directions on the product's label.