

Dead leaves remain attached to limbs killed by *Eutypa dieback*.








Gum forms around the margins of a *Eutypa* canker. Notice the association of the canker with an old pruning wound.



The darkened wood of a *Eutypa* canker is U- or V-shaped in cross-section.

Eutypa Dieback *Eutypa lata*

				
Apricot	Cherry	Peach, Nectarine	Plum	Prune
●	●	○	○	○

Eutypa dieback is an important disease of sweet cherries and grapevines in California, and also occurs on apricots and where it is increasing in importance. Besides these hosts, the pathogen is known to attack apple, kiwifruit, *Ceanothus* species, and chokecherry. *Eutypa dieback* is most serious in coastal areas, where weather conditions are more favorable for spread of the disease. However, it does occur in Central Valley locations as well. Mature trees are affected more severely because *Eutypa dieback* infections accumulate over time, and more pruning cuts usually are made on older, larger trees than on younger, smaller trees.

Symptoms and Damage

On newly infected trees, the first symptom of *Eutypa dieback* usually is the wilting and death of leaves on individual branches during the summer. The dead leaves usually remain attached throughout the winter. Affected limbs have a canker that can be traced back to a pruning wound or other injury that has exposed the sapwood. Globes of gum usually are present around the margins of the canker. The bark of the canker is dark and may be swollen and cracked; the underlying wood is light or dark brown. Discoloration of the wood may extend for some distance beyond the edge of the bark canker and into the heartwood of the branch. The darkened wood tends to be V-shaped or U-shaped when viewed in cross-section. Affected branches become brittle and break easily because the wood has been decayed by the pathogen.

Several years after infection, a dark layer of fungal tissue (stroma) forms on the surface of the sapwood of cankered areas where dead bark has sloughed off. This gives the limb a blackened, burnt appearance. In wet locations, spore-forming structures called *perithecia* form in stroma on wood that has been dead at least 2 years. The small, black, globe-shaped *perithecia*

are visible when you slice into the stroma. *Perithecia* are produced where mean annual rainfall is at least 14 inches. They also occur in lower-rainfall areas in sprinkler-irrigated orchards and vineyards. Spores (ascospores) produced in *perithecia* are the only known infective stage of *Eutypa lata*.

Seasonal Development

Ascospores produced in *perithecia* are discharged during periods of rain, primarily in fall, winter, and spring. They can be spread across long distances by wind, and can infect pruning wounds or sapwood-exposing injuries that have not healed. The spores are drawn by capillary action into the xylem vessels of unhealed sapwood. In cold weather, pruning wounds may take 6 weeks or more to become resistant to infection; in warm weather, they take 2 weeks or less to become resistant. *Eutypa* develops within the vascular tissue, killing the cambium, and then invades the heartwood, rotting and weakening it. Dieback symptoms become evident 1 or 2 years after infection.

Eutypa dieback infections often continue to advance for many years and eventually may kill the entire tree. In a few cases, infections stop spreading and the fungus dies out.

Management Guidelines

To manage *Eutypa dieback*, restrict pruning activities in apricots to the months of July and August in the Central Valley and to August in coastal areas. It's a good idea to follow this guideline for cherry trees, especially where *Eutypa dieback* is known to occur on cherries. This pruning schedule allows tree wounds to heal before spores are likely to be present. Pruning intended to shape apricot trees should always be done at this time. If trees must be pruned outside of these times, flaming the cut surface with a propane torch for 5 to 10 seconds may render the pruning wound immune to infection. This technique is not practical for routine pruning of commercial orchards, but is useful for backyard trees and when a small amount of pruning is needed in a commercial orchard at a time of year when conditions favor infection. Sanitation helps prevent the spread of existing infections.

Remove and burn cankered branches during the summer months. Make cuts at least 8 inches below the margins of affected wood. Make sure no discolored, disused wood remains below the cut. If you can still see discolored wood, make another cut further down the limb and repeat, if necessary, until the wood of both faces of the cut appears healthy. Heavily infected trees should be removed and burned. Remove and destroy any abandoned grapevines or apricot trees in the vicinity of apricot orchards.

Follow recommended irrigation and fertilization practices to maintain adequate tree vigor. *Eutypa dieback* appears to be more severe in orchards stressed for water or nutrients. If you use sprinkler irrigation, keep the sprinkler angle low enough to avoid wetting the tree branches. Schedule irrigations to allow as much time as possible for pruning cuts to heal before irrigating.