Management: If a tree has been infected, much can be done to prevent its re-infection. Rake up all the leaves from the tree and prune any infected twigs. Dispose of all diseased tissues by burning or putting them in closed bags and sending them to a landfill. Dense stands of poplars or aspens, or individual trees that are full and bushy should be thinned or pruned to allow better air movement in the stand and among the leaves. This may reduce the disease incidence as dense stands and bushy trees incur greater Marssonina infestations. Avoid watering the lower branches and leaves of poplars. Wet leaves and twigs, especially if they do not dry off quickly, encourage infestation by Marssonina spores. Fungicides can be used in the landscape to reduce spring and summer infestations, but with good sanitation this is usually not necessary. Several effective fungicides that contain chlorothalonil1, chlorothalonil plus thiophanate, mancozeb, triforine or ziram are often recommended. Follow labeled instructions precisely to be effective and safe. Apply the fungicide at bud break and every 7 to 10 days thereafter, as needed.

1. Use or nonuse of chemical names does not constitute an endorsement or criticism of a product containing the chemical.
Many broad-leaved trees are attacked by Marssonina blights. Fortunately, *Marssonina populi* that attacks aspen, poplars and cottonwoods, is the only Marssonina blight of any consequence in Nevada. However, it is common throughout the Great Basin and the Intermountain West on native and landscape trees of the genus *Populus*—aspen, poplars and cottonwoods.

**Spread:** *Marssonina populi* is a fungus that overwinters on leaves and infested twigs. The primary infestation occurs in the spring. Spores released from leaf litter on the ground or from nearby infected twigs are carried by wind and rain to the newly emerging and developing leaves. All summer long, healthy leaves are attacked by spores from blighted leaves adjacent to them and by season’s end, all the leaves on the tree become infected.

**Infection and Symptoms:** The blight affects leaves and small twigs of broad-leaved trees and causes them to be unthrifty, to lose their leaves and in severe cases, their small branches die. Infested trees rarely die outright unless they have been defoliating for many years and as a result, are extremely weak. Repeated infestations make the tree susceptible to branch dieback and much more likely to be attacked by other life-threatening diseases and insects. Commonly, winter injury—dehydration, sunscald and damage from cold—occurs in continuously infested trees as well. Marssonina infestations are also more prevalent on trees under stress from adverse environmental and cultural conditions—drought, waterlogged soils, irregular irrigations, heat, and poor nutrition. This leaf spot and twig blight occurs more frequently following wet weather or where sprinklers wet the foliage.

Marssonina disease of *Populus* begins as dark brown or black flecks scattered over a leaf. The spots enlarge with time to form black blotches usually with yellow to tan borders. As the brown spots come together to form larger blotches, they are slow to cross over veins. Eventually, the entire leaf may be blighted. Because infected leaves produce less food from photosynthesis, they are smaller than normal and if the infestation is widespread, the vigor of the tree is less. From a distance, affected trees have a bronze cast and a weak, almost see through appearance. Large trees are most affected in their lower crown while all the leaves of small trees are infested. In all cases, the blighted leaves drop early, sometimes several weeks earlier than uninfected trees. Early defoliation weakens the tree more, as less food is stored in the trunk and roots. Infestations are cyclical and may be more severe from one year to the next.

**Prevention:** Prevention of Marssonina Blight in poplar and aspen is difficult because so many of these trees are present both in landscapes and natively. Consequently, the fungal spores are present where *Populus* species grow. Some clones of these trees are less susceptible to the disease than others. It is difficult to know when selecting a tree in the nursery whether or not it is susceptible to Marssonina Blight, as nurserymen do not label trees as to their susceptibility to this blight. If a tree has never shown signs of having the disease, then it could be used for vegetative propagation as poplar species are easily produced by root and shoot cuttings. The trees produced from a resistant tree would not be susceptible to the disease.