

Cytospora Canker Of Planted Poplars

By Arthur D. Partridge

Poplars or aspens (*Populus* spp.) and particularly some hybrid poplars are an important part of special plantings in Idaho and particularly of windbreaks in southern Idaho. These plantings are unusually valuable and justify unusual means to assure their success. Ordinarily, poplars included in these plantings are rarely affected by diseases or insects but sometimes a canker resembling "sunscald" depletes stands enough to render them useless. Improper handling, pruning, or thinning often is responsible for starting or spreading the disease and for subsequent tree loss.

The disease appears on stems as light-colored, often orange-brown or yellow-brown areas from one to several inches across (Fig. 1.) Such areas appear around pruned branches or injuries. A slight depression usually accompanies the discoloration so that the whole area seems to be sunken. The general appearance is as though the tree had been scalded in spots or extensively. Close examination will reveal that the dead areas inside such spots have tiny, black, pear-shaped, "pimple-like" fungal bodies embedded just beneath the outer bark. These are smaller than pinheads but are visible in mass or when the outer bark is peeled off (Fig. 2.) Frequently, reddish-orange, hair-like tendrils coil out from the embedded structures (Fig. 3.) These become numerous and more obvious in the presence of moisture, as during rain or overhead irrigation. With time, the spots or cankers expand and grow together until the invaded stems are girdled. Then, a general dieback of parts beyond the cankers will occur.

Because the causal fungus (*Valsa* sp. = *Cytospora* sp.) enters only through wounds, not through healthy bark, the disease is more easily controlled by careful handling and pruning than

by eradication. In order to avoid this disease:

1. Prune your trees sparingly.
2. Be very careful to sterilize pruning tools after each cut.
3. Always prune back to the next branch so that you leave no stubs.
4. Avoid injuring your trees with machinery, etc.
5. Paint wounds, including pruning scars, immediately. Use shellac on exposed areas of cambium (e. g. where wood and bark join around a removed branch) and paint exposed wood (e. g. the center of a removed branch) with tree paint.

If you find the disease in your trees, remove and burn all dead or heavily cankered branches. If cankers on the main stem are not extensive, you may remove them by cutting them out and back into the surrounding live tissues (Fig. 4), but:

1. Remove the dead or cankered area first (b).
2. Sterilize tools.
3. Cut back 1 or 2 inches into the surrounding live tissues (a).
4. Paint the margin with shellac.
5. Paint exposed wood with a good "tree paint."
6. Sterilize tools.
7. Clean hands to prevent spore transfers.

Tools may be sterilized by a few seconds dip in alcohol, sodium hypochlorite, or mercuric chloride but handle these chemicals very carefully. They are dangerous.

If cankers are extensive on the main stem, do not attempt to cut them out. This will probably reduce the tree vigor and increase the rate of decline. Instead, cut the entire tree back well below the last canker, paint the exposed surface,

and favor a single vigorous sprout. In any pruning or cutting operations never work during moist periods because this is when the fungus sporulates and spreads very easily. Always burn all removed trees or their parts.



Figure 1. Typical "Cytospora canker" on poplar. (Approximately 1/6 natural size). Note the discolored area surrounding the obviously dead tissues. (Photo by Vernon H. Burlison)

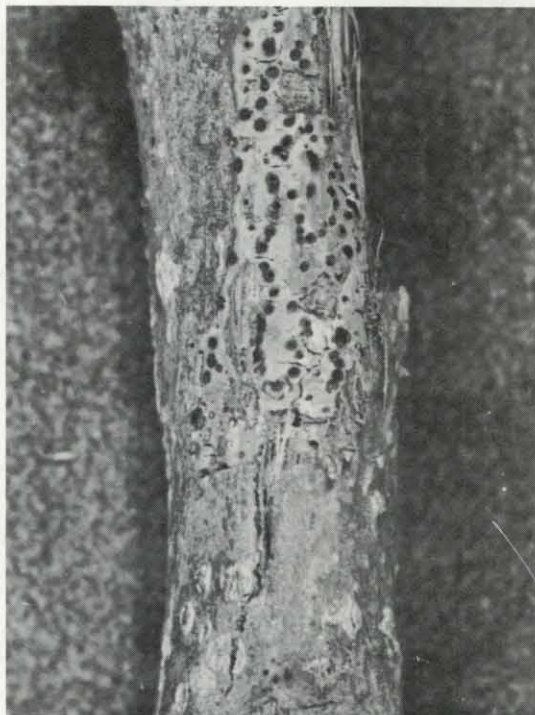


Figure 2. Black fruiting bodies of the causal fungus (*Valsa* sp.) on the bark of an infected poplar. (Approx. 2X).

TO CIRCULATE SEE
LIBRARIAN THIS FLOOR



Figure 3. Tendrils of oozing spores protruding from fruiting bodies of the causal fungus during periods of moisture. (Approx. 2X).

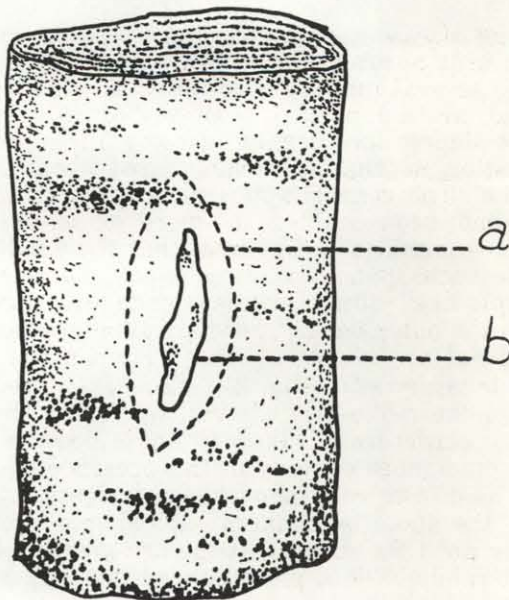


Figure 4. Diagram of a canker (b) and the proper zone to cut out (a) during its removal. (b) consists of all dead and/or discolored tissues. (a) should extend well back into healthy tissue. (Illustration by Patricia J. Christopher).