



Photo 3. Then, 15 years later, a rotten shell now, the tree was still on its feet.



Photo 4. Finally, I chanced to pass again. The tree was down. From death to fall, 32 years elapsed.

## Checking for Borer Damage in Shade Trees

Insect borers (beetle larvae) attack both established and newly transplanted trees weakened by lawnmower injury, disease, sunscald, or the transplanting itself, says Richard L. Miller, Extension entomologist at The Ohio State University.

Feeding on that part of the tree just beneath the outer bark, several of these larvae can girdle a tree, causing its death.

The first sign of borer damage on an established tree may be a large patch of peeling bark. Underneath you'll find small grooves where borers have burrowed in all directions. To save the tree, cut out the dead area back to live bark and down to hard wood. Paint the area with tree wound material, then follow with a thorough chemical spraying.

DDT or dieldrin are recommended sprays for all trees. Four

applications at 30-day intervals (beginning mid-May) are required, as egg-laying adults are active over 3 to 4-month periods. Spray the trunk thoroughly to the lower branches.

Miller says that wrapping newly transplanted trees before the larvae have had a chance to enter them will help prevent borer attack. Wrap the trunk from the ground to the lower branches with burlap or with tree wrapping paper.

## Herbicide Incorporation Requirements Vary

The type of herbicide you use determines whether you should incorporate it, says Gerald Miller, University of Minnesota extension agronomist.

Volatile herbicides such as EPTC should be incorporated deep enough to reduce surface loss. Those less volatile but that tend to lose effectiveness when

left on the soil surface (such as atrazine) may also perform best when incorporated.

However, herbicides such as CDAA and linuron are usually most effective when applied to the surface.

Leaching can decrease effectiveness of highly soluble herbicides, Miller says. This is also true at times of low solubility herbicides when incorporated. The loss of effectiveness may be caused by greater absorption onto the soil or organic matter particles when mechanical incorporation is involved.

Miller cites recent evidence that many preemergence herbicides control certain grass weeds best when the chemicals are positioned for uptake in the shoot zone. He also describes a "dilution effect" that occurs as incorporation depth is increased. When incorporated, he says, herbicides should be kept relatively shallow and concentrated in the shoot zone.