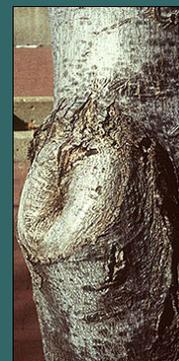


Michigan State University Extension-Oakland County

Tree Wound Dressings are Cosmetic



Few trees are able to reach maturity without receiving one or more wounds from a variety of sources. Yet, trees are able to survive centuries and become the oldest living creatures on earth, despite wounding. Some recent work has involved dissecting trees in an effort to understand the manner in which trees are able to compartmentalize and close an injury.

Trees do not heal in the true sense of the word. Injured tree tissue is never repaired and returned to the former state, as is a cut on your hand. Trees react by closing the wound and compartmentalizing or isolating the injured tissue from the surrounding tissue. Let's take a look at the sequence of events which follow wounding.

The first event, which occurs during compartmentalization and closure, is that the injured cells leak their contents onto the injured surface, where they are oxidized to form a barrier to retard or prevent further infection.



Next, the most recently laid-down wood is altered, as is the tissue around the injury. This is accompanied by discoloration. The extent of the discoloration depends on the kind of tree, the vigor of the tree, the kind of wound, the location of the wound, and the time of wounding. New growth rings are laid-down the spring following the injury and callus tissue begins to grow over the injured tissue. Over a period of time, callus tissue closes the wound.

Pioneer pathogens, including fungi and bacteria, can invade the injured tissue. The result is further discoloration, but does not include decay. Decay-causing organisms can invade only tissue, which has already been invaded by the primary invaders. Thus, decay is the result of an orderly succession of events which can be halted at any step along the way.

Normally, decay does not proceed after the injury has been closed-over. Use of tree wound dressings has not shown conclusively to prevent the sequence of events, which leads to decay. In fact, discoloration may be less and closure rates more rapid on an untreated plant than on the treated plant.

There are, however, a number of factors, which can reduce injury and decay following an injury:

- Clean the wound by trimming away loose or injured bark.
- Shape the wound into a vertical ellipse or oval whenever possible. A sharp knife must be used to create a clean wound edge.

- Remove all dead, dying or weak branches from the wounded tree and the surrounding area. Cuts should be just outside the branch collar. Proper pruning will leave a slight "shoulder" but not a stub.
- Remove less valuable woody ornamentals which are competing with the more valuable injured tree for light and nutrients.
- Fertilize and water the injured tree to increase plant vigor and the rate of closure.
- Protect the tree from further injury.
- Where injury is planned, as in the case of pruning cuts and nutrient implantation, the following locations are to be avoided: Above an existing wound; Above an injured root; Above a limb, especially a weak or dying one.
- A thin coat of tree wound dressing can be used to show that the wound has been treated, or to make the injury less noticeable.

There are also several factors which cannot be altered but which also affect the amount of decay that results from an injury:

- Trees are individuals and some of them close wounds more rapidly than others.
- Some trees isolate the decay in the wood better than others of the same kind.



- Some kinds of trees are better adapted than others. Long-lived trees are generally better than short-lived trees at compartmentalizing and closing injuries.
- Young trees close and isolate injury better than mature or old trees.

Thus, we see what happens when a tree is injured. Tree wound dressings are unable to alter the decay process. The earlier belief that tree wound dressings acted as a physical barrier to disease entry is suspect. The barrier is easily overcome by the checking or cracking which accompanies drying of the wound. However, the cosmetic reasons for painting wounds with a thin coat of black paint still remains. We know that the wound has been treated, and that the job looks better if it has been painted.

Would you like additional information?

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