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Michigan State University Extension-Oakland County

The Causes of Bark Splitting on Trees



Bark splitting can occur in response to various environmental factors at different times of the year. Splits can occur on the trunk of the tree as well as on branches. Trees that are most susceptible to this type of injury are those with thin bark, such as certain fruit trees. Newly planted trees or young trees are more prone to bark splitting. Bark splits are not likely to be fatal to trees, although they will, in some cases, allow entry of disease organisms, which can cause decay.

During late winter and early spring, sharp temperature changes between day and night can freeze the water within the trunk causing it to explode or split open in a symptom referred to as "frost-cracks." Frost cracks are also called southwest injury since this is the side of the tree most often affected. Frost cracks can also start from a wound inflicted earlier in the tree's development. Sometimes the crack may remain in the internal wood, but frost can cause the crack to ex-

pand and split the bark. Excessively late growth in the fall stimulated by warm temperatures, high humidity, and high nitrogen levels can increase susceptibility of trees to frost cracking.

Fluctuating growth conditions may also cause splitting of bark. Dry weather (which slows growth) followed by wet growth conditions may cause an excessive or vigorous amount of growth leading to splits in the bark.

Sunscauld, especially in winter months, can cause bark injury to thin barked or young trees. Although an exact split may not be seen immediately, the outer layer of bark will peel away from the affected area in the summer following winter damage. Sunscald injuries to tree limbs can be minimized by avoiding heavy pruning of trees which have dense canopies. Gradual thinning of limbs over a period of years is preferable, particularly on thin-barked trees.

Certain trees are more susceptible to splits than others, especially Kwanzan cherry, maple, and fruit trees. To avoid splitting on newly-planted trees, especially of a thin-barked species, be particularly careful to avoid fertilizing trees late in the growing season, as this may promote new growth and predispose the tissue to winter injuries (including bark splitting). Autumn fertilization following leaf drop and dormancy should not lead to this problem.

When a split occurs on a tree, what should you do? In recent years, quite a bit of research has been done on closure of tree



wounds. These investigations have indicated that tree wound paints are of little value in helping a tree to callus over. For this reason, do not paint or try to seal a split with paint or tar.

Cleaning the edges of the wound, known as "tracing," can be very helpful in aiding healing. Do not enlarge the wound any more than necessary to clean the edges! With a sharp knife, starting from one end of the split, trace around one side of the wound, no more than one-half to one-inch back from the split bark. Stop at the other end and do the same procedure on the opposite side of the split. Knives should be sterilized between cuts by dipping for several minutes in a 1:10, bleach: water solution or a 70 percent alcohol solution to avoid contaminating the cuts. Carefully remove the bark from inside the traced area.

You should now have a bare area with smooth edges. Remember to leave this untreated. A tree growing with good vigor usually calluses over quickest. Encourage vigor in the tree with spring fertilizer applications-but only if the tree exhibits signs of nutrient deficiencies-and be sure to provide adequate irrigation in hot, dry weather. Bark splits will often close over completely leaving a slight ridge in the trunk where callus tissue has been produced. Some trunk cracks may open and close for many years depending on weather conditions.

Excerpted from Chautaugua Living, Cornell Extension, by Thomas Kowalsick, Juliet Carroll, and Margery L. Daughtrey.

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