



Horticulture Diagnostic Laboratory

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Bark Splitting On Trees

Introduction: 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 which are most susceptible to this type of injury are those which are thin-barked, 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. Through proper treatment to encourage the natural callusing process, a tree should be able to close most splits.

There is no single reason for bark splitting on trees. During late winter and early spring, severe cold followed by rapid thawing can result in splits referred to as "frost cracks". These frost cracks can actually start from a wound inflicted earlier in the tree's development. Sometimes the crack may remain in the internal wood, but frosts can cause the crack to expand 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 or ideal growth conditions may cause an excessive or vigorous amount of growth leading to splits in the bark.

Symptoms: Sunscald, 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 the 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. Newly planted trees may be protected from sunscald by wrapping main trunks with tree wrap.

As mentioned before, certain trees are more susceptible to splits than others. The trees on which we receive the most inquiries concerning splits are Kwanzan cherry (**Fig. 1**), maple, and fruit trees. Any newly-planted tree, especially of a thin-barked species, is a candidate for bark-splitting if it is not



Fig. 1. A large bark split on the lower trunk of *Prunus serrulata* 'Kwanzan'. (Photograph – Thomas Kowalsick, Senior Horticulture Consultant, Cornell Cooperative Extension – Suffolk County)

cared for properly. Be particularly careful to avoid fertilizing the 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.

Management Strategies: 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. Tracing the bark around the split can be very helpful in aiding wound healing (**Fig. 2**). With a sharp knife, starting from one end of the split, trace around one side of the wound, about 1/2 to 1 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 them for several minutes in a 1:10 bleach:water solution or a 70% alcohol solution to avoid contaminating the cuts. Carefully remove the bark from inside the traced area. You should now have a bare area resembling the diagram in (**Fig. 2**). Remember to leave this untreated. A tree growing with good vigor usually calluses over quickest. Encourage vigor in the tree with yearly spring fertilizer applications -- 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.

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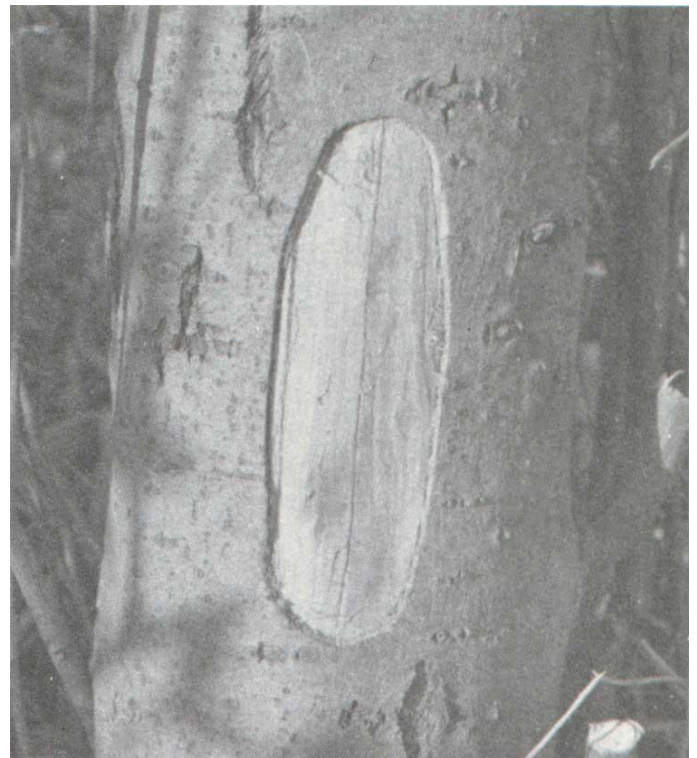


Fig. 2. An example of “bark tracing” around a bark split to remove jagged and lifted bark. (Photograph – Thomas Kowalsick, Senior Horticulture Consultant, Cornell Cooperative Extension – Suffolk County)