



# The Plant Doctor's LANDSCAPE TIPS

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## SOUTHWEST CANKER

### INTRODUCTION:

Southwest Canker (SWC) is a malady found on many trees (Photo 1). SWC may also be known as "Frost Crack," "Freeze Crack," "Sun Scald," and so forth. The malady is unsightly to many owners of trees. Small trees are most commonly affected. Years of continual SWC activity may result in SWC exhibitions on large trees (Photo 2). Often, other entities such as earwigs, carpenter ants or fungal conks may be associated with SWC, but these entities are generally incidental. Continued SWC "attacks" may predispose trees to other issues such as disease and insect activity.

### CAUSES OF SWC:

SWC, as defined, is an environmental issue. SWC usually occurs during the winter months when most other maladies, such as pests and diseases, are dormant. SWC is typically caused by the following environmental activity: On cold, sunny days, the trunks of trees are gradually warmed from the sun significantly over the course of the daylight hours. This gradual warming continues not only on the trunk's surface (bark) but also several inches into the trunk of the tree. The warming trend may continue most of the day up until dusk, when the sun drops below the horizon. The sudden disappearance of the sun on a very cold day causes the external bark and immediately adjacent layers to cool very quickly. . .much more quickly than the warmed, deeper tissues on the south or southwest side of the tree. The rapid cooling of the external or near external layers of the trunk may result in development of a physical split in the bark, effectively separating the live cambium from the external bark. This abiotic, physically induced crack may expand over the course of the winter and during succeeding winters. Because this crack is a wound, most healthy trees will try to heal this wound during the summer growing period. The healing process usually results in callus tissue (Photo 3). Repeated years of SWC may result in ever larger cankers. Many species of trees may be affected by SWC but maple trees, thin barked trees and fruit trees (Photo 4) are especially affected.

SWC may be confused with other maladies such as diseases and pests. For example, SWC may be mistaken for Phytophthora bleeding canker on Maple, wood decay fungi, and insect borer activity which results in dead cambium tissues beneath the bark. Distinguishing these problems may take some detective/diagnostic work. SWC will almost always occur on the southern to southwest side of trunks of trees unless reflection from glass or other surfaces could be involved; diseases and pest tend to be more random around the trunk of the tree.

Repeated SWC activity may lead to attack by other pests and diseases, particularly if trees are in a stressed or weakened state.

### MANAGING SWC:

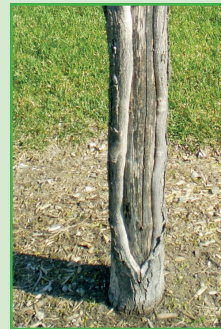
SWC can be managed by several means. It may be advised to not plant very susceptible trees in areas where their exposure to sun during the winter may cause SWC. Fruit growers often paint the trunks of their trees white to reflect the sun, a practice that is not likely to be employed in the landscape. Temporary use of trunk wraps may prevent SWC. Physical barriers such as fences, burlap (temporary) or the installation of shrubs (particularly evergreens) may also reduce the incidence of SWC. 🌳

For more information, please feel free to email David Roberts at [robertsd@msu.edu](mailto:robertsd@msu.edu) or contact a professional plant health care provider. The author, MSU and MGIA do not endorse any particular products. If using pesticides, be sure to read and follow label directions.



**Photo 1:** Southwest Canker (SWC) is an environmentally-induced malady that occurs during the winter months when uneven heating and cooling results in bark splits.

**Photo 2:** Repeated years of SWC activity may cause large cankers on older trees. Similar appearing cankers may be caused by fungal diseases, pest activity and physical injuries.



**Photo 3:** Healthy trees try to heal SWC during the growing season. Note the rolled callus tissue at the margins of this SWC.



**Photo 4:** Fruit trees and flowering ornamental fruit trees are particularly susceptible to SWC (Insert). Trees on the opposite side of this street are not affected by SWC because buildings block the exposure of their trunks to the sun during the winter months.