

What's wrong with my Apple Tree?
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Recently you may have seen an article that mentioned how researchers have found bacteria deep in a cave that feed on sulfur compound in the rocks. Bacteria are found everywhere on the globe including in the soil and ice of Antarctica. Although many are pathogenic to humans very few are a problem on landscape plants. One exception to this is a bacterium known as *Erwinia amylovora*. This little guy causes a disease called fire blight and is most often seen on apple, crabapple, pear, mountain-ash, and cotoneaster.

Fire blight has been noticed this spring on apple shoots and developing fruit. The bacterium depends on weather conditions and insects to move within an infected plant as well as plant to plant transmission. During humid warm weather, overwintering cankers start to leak a sticky sweet substance called bacterial ooze, which attracts insects including honeybees. Honeybees move bacteria from flower to flower causing a condition known as bud blast and fruit blast. Rain splashes ooze to other parts of the tree and can cause blighted branches. The tell tale sign of fire blight is when new shoots or suckers that have turned brown or black on the tips and formed a “shepherd’s crook” at the tip of the branch. Flowers and fruit may turn dark, shrivel, mummify and rot. Mummified fruit may cling to the tree for months.

Proper pruning, fertilization, and site selection is the best way to combat fire blight. Always prune to another bud or branch while the apple tree is dormant in late winter. Apply a balanced fertilizer early in the spring to encourage tree growth prior to the spread of fire blight in the spring. Fertilizer applied to the lawn is often sufficient for trees and shrubs. Planting new trees in the proper site reduces stress and can make trees less susceptible to fire blight and other diseases and insect attack.

Finding fire blight in your apple tree is not the end of the tree if you get right to work and prune all infected branches out as soon as possible. Prune blighted branches by cutting a minimum of twelve inches below where the blight starts at a proper pruning site. Disinfect your pruning tools after each cut by dipping in a 10% bleach solution for at least five seconds. Use one part bleach to nine parts water to make the disinfecting solution. Skipping the disinfection process will spread bacteria even more. Unfortunately, there are not magic bullets that can be applied at this time but prior to flowering you can spray your tree with streptomycin sulfate or a copper-based fungicide to reduce infection.

If you have questions about fire blight or any other horticultural problems feel free to contact me at the South Dakota State University Cooperative Extension office in Rapid City by phone at 605-394-2188 or email to ricky.abrahamson@sdstate.edu.