

# Garden Bad Guys – Fireblight

By Nanette Londeree

We don't need a calendar to know that spring has arrived. All around us signs of the season abound - bulbs pierce the ground with vibrant bouquets, shrubs strut their floral finery and trees hit their flower-laden peak of bloom. New foliage erupts from the bare branches and slender stems of our prized fruit trees creating visions of bountiful crops of juicy apples and sweet crispy pears. As those tender new leaves unfurl, the shades of supple greens and reds you anticipate instead look more like they've been torched or scorched. What's up with that? Might be a case of fireblight.



This nasty disease is a result of infection by *Erwinia amylovora*, a common and destructive bacterium. It most frequently affects pome fruit trees (apples and pears) and related plants – crabapple, ornamental pear, *Pyracantha* and quince, and occasionally attacks *Amelanchier*, *Cotoneaster*, hawthorn, loquat *Photinia*, *Spiraea* and toyon. All hosts are in the Rosaceae family, though not all Rosaceae are affected.

Infections may appear scattered throughout the crown of the plant and exhibit a sudden wilting, shriveling and blackening of shoots, flowers and fruit, giving them the telltale “scorched” look. It's usually seen first on the plants blossoms and stems, turning them brown or black (dependent on the type of plant) and possibly distorting their form. Infected spurs and twigs display a darker, water-soaked appearance; they turn brown to black, then wilt and die. A watery, light tan ooze can exude from branches, twigs, or trunk cankers, leaving dark streaks on branches or trunks. Pink to orange-red streaks may be found underneath the bark in newly infected wood. The disease can spread from the point of entry (blooms, stems and branches, limbs, trunk or roots) and may severely disfigure or kill individual limbs or entire susceptible varieties.

Mild temperatures (65 – 85°F) with some intermittent rain provide perfect conditions for the pathogen to develop. As trees resume growth in the spring, the bacteria, having overwintered in cankers, become active. It's spread by insects – aphids, flies, leafhoppers and honeybees, pruning tools, wind and splashing rains. As long as the warm, wet conditions exist, the bacterium can continue to spread and infect new sites

The most effective means of managing the disease is to plant varieties that are not susceptible. Keep the plant vigorous and healthy through good cultural care. Minimize practices that promote abundant succulent new growth (excess nitrogen fertilizer and heavy pruning), as the tender new growth on plants is especially vulnerable. If possible, don't irrigate during the blooming season.

Watch plants throughout the year and promptly remove and destroy any portions that appear infected. Prune out diseased branches, cutting at least 8 to 12 inches away from the visible injury or canker, or until you see healthy tissue. The wood in an infected trunk or major limb may be saved by scraping off the bark down to the cambium layers. Removing cankers is best done during the dormant season (to reduce stimulating new growth) or after the weather turns hot and dry. Disinfect any tools, between each cut, to prevent spreading the pathogen.



Photos of fireblight on branch (top) and flower (right) courtesy of UC IPM website