

# RESEARCH LABORATORY TECHNICAL REPORT

## Brown Rot

Bruce R. Fraedrich, PhD, Plant Pathology

Brown rot is a destructive disease on many species in the genus *Prunus*. Fruiting and ornamental cherries, peaches, nectarines, plums, and apricots are most susceptible. The disease causes blighting of blossoms, shoots and twigs as well as decay of ripening fruit. Brown rot occurs anywhere susceptible species are grown but is most severe in humid climates with ample rainfall.

### Biology

Multiple species of the fungus *Monilinia* cause brown rot. The fungus overwinters on infected twigs, old flower parts, and mummified fruit, which serve as sources of new infections (Figure 1). *Monilinia* is dispersed by wind and rain to healthy blossoms and shoots in spring. Infections occur when temperatures are above 41°F and moisture is present on susceptible plant parts. The fungus can progress from blossoms and shoots into twigs to form cankers and cause dieback (Figure 2). Later in the season, fruit infections occur. The disease progresses slowly on fruit early in the season but rapidly progresses as it ripens.

### Symptoms

Bloom infections appear as water-soaked lesions followed by rapid browning of flower petals. Infected flowers adhere to twigs through the growing season. Infected shoots appear shriveled and brown. Initial symptoms of brown rot on fruit consist of brown, sunken lesions that grow slowly at first but then enlarge rapidly as fruit ripens. Gray-brown spore masses eventually form as the lesions enlarge and encompass the entire fruit resulting in a mummified appearance. Sunken twig cankers occur on some *Prunus* species. Droplets of amber-colored gum usually form on the cankers.

**Figure 1: Mummified fruit caused by *Monilinia***



**Figure 2: Twig dieback and blighted blossoms**



## Management

Brown rot is suppressed through a combination of cultural and chemical control practices.

### Cultural

Remove infected twigs and branches in summer and remove mummified fruit that has fallen to the ground or is still attached to twigs to reduce disease inoculum that cause new infections. Overhead irrigation should be avoided since this will disperse spores to non-infected areas. Fertilize based on soil analysis and use slow-release nitrogen fertilizers. On fruit-bearing trees, selectively remove developing fruit clusters that touch.

### Chemical

Apply fungicide treatments beginning at the onset of bloom and continuing through early spring to suppress blossom and shoot infections. Apply additional treatments later in the spring and summer to protect fruit. Fungicides used on edible fruit must be approved/registered for those plant species.



**Founded in 1926, The Bartlett Tree Research Laboratories is the research wing of Bartlett Tree Experts. The Lab also houses a state-of-the-art plant diagnostic clinic and provides vital technical support to Bartlett arborists and field staff for the benefit of our clients.**