

Ornamentals Feature: Boxwood Blight And Rose Rosette Disease

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Boxwoods and roses are garden classics for good reasons. Evergreen, deer proof, shade tolerant with a reliable structure, boxwoods are used to frame, define edges, divide spaces, border planting beds and, as topiaries, can act as living sculptures. Blooming the entire season, beautiful as a hedge, standalone or in mass, and available in a wide range of colors, shapes, and sizes, roses offer the perfect splash of color in any sunny well drained garden bed. Here in the mid-Atlantic and northeast, boxwoods and roses are ubiquitous. That is why it's so important to safeguard them from contracting blight and rosette—fatal diseases that in recent years have become more widespread throughout the U.S. and Canada.



This 15-year-old GreenCraft garden design features American and English Boxwoods. Blight has not been an issue, as the proper horticultural precautions have been employed. (Photo: Trisha DeStefano)

The Boxwood Blight

First appearing in Connecticut and North Carolina in 2011, boxwood blight currently has been reported in over 25 states in the continental U.S. Given the right conditions—warm and wet—the spores can kill a boxwood in just weeks! In last year's relentlessly wet summer for many parts of the eastern and midwestern United States, this was happening at an alarming rate. Boxwood blight is caused by the non-native fungus *Calonectria pseudonaviculata*. The disease causes black spots to form on leaves, along with elongated black lesions on twigs and stems. Rapid defoliation (in a matter of weeks) soon follows the initial symptoms of infection.

Using Resistant Varieties. The good news is that this is not going to wipe out our beloved boxwoods as Dutch elm disease did to our elm trees and the Ash borer is doing to our ash trees. There are so many varieties of boxwoods, with some more recent cultivars, that are reportedly able to resist both the blight as well as common boxwood pests like mites, leafminers, and psyllids. While American and English boxwood (*Buxus sempervirens*) are most susceptible to the blight, many Asian species of boxwood, and hybrids with Asian parents, are generally more resistant.



Boxwood blight is irreversible, so prevention is key. Early symptoms include leaf spots, but because leaf drop occurs soon afterward, this phase often goes unnoticed.

(Photo: Trisha DeStefano)

Available this Spring are the Saunders Brothers' NewGen™ Boxwood introductions, proven through years of testing and trialing to have better tolerance of boxwood blight and better resistance to boxwood leafminer. Some of the most blight-resistant boxwood varieties currently on the market include 'Dee Runk,' 'Fastigiata,' 'Franklin's Gem,' 'Golden Dream,' 'Green

Beauty,' *Buxus insularis* 'Nana,' 'Jim Stauffer,' 'John Baldwin,' 'Little Missy,' 'Richard,' 'Winter Gem,' and 'Wintergreen.'

Prevention For Established Plantings. But what about existing boxwoods? Landscape contractors who deal with this maintenance may be responsible for more susceptible varieties, like the English Boxwood. One of the best ways to protect those established plantings is to avoid introducing new boxwoods—or only add ones from a trusted source that have been inspected. Just ask sellers if their suppliers are participating in Boxwood Clean programs.

Some other things you can do to avoid the spread of blight is to avoid overhead watering; maintain 1" to 2" of mulch under the shrubs; clean pruning tools before and after trimming with a 10% bleach solution; and spray boxwoods every 10 days in spring, fall, and in wet weather with chlorothalonil (a fungicide). It's worth noting here that *Pachysandra* is also susceptible to boxwood blight, so it would be wise to keep these plants away from one another.

Rose Rosette Disease



Rose Rosette Disease (RRD) symptoms usually appear on new growth. Note the new shoots on this shrub rose have unusual color, distortion, and witches' brooms, all typical symptoms of RRD. (Photo: Jennifer Olson/Oklahoma State University)

Rose Rosette Disease (RRD) was first reported in California and Wyoming in the early 1940s. The main host of the virus is the multiflora rose, an exotic invasive perennial shrub that grows in all but nine states. Wherever multiflora rose grows, rose rosette poses a potential threat. The disease is caused by a virus spread by a very small, eriophyid mite. When they feed on an infected rose and are transferred to another rose by wind, on a person, tool, or animal, or by walking from one plant to another, they will pass on the virus when they start to feed. Though the mites do not fly, they are readily carried by the wind. Virus transmission occurs most readily between the months of May through mid-July when plants are actively growing.

The symptoms of RRD are variable, depending on the cultivar of rose. In the early stages, plants may develop elongated stems with deep red foliage that does not gradually turn green like typical new growth. Elongated shoots may be thick and fleshy, almost succulent-like, with overabundant thorns.

Another common symptom of RRD is “witches’ brooms”—brush-like clusters of shoots and branches that originate from the same point. These witches’ brooms are also called “rosettes,” hence the name of the disease. The foliage within these rosettes may be stunted, distorted, and mottled red or yellow. Witches’ brooms will spread randomly across the plant as the disease progresses. Flowers may be distorted or fail to open fully. Severely infected plants may not produce flowers.



Other telltale signs of RRD are thickened stems and excessive thorns. (Photo: Jennifer Olson/Oklahoma State University)

Disease Resistant Roses. Currently, there are no roses known to be 100% resistant to RRD, but rose breeders have been working to develop new cultivars that are resistant. The first, ‘Top Gun,’ is a shrub rose released in 2018; it is also reportedly resistant to most other common rose diseases. Others cultivars are planned to follow. In the meantime, good horticultural practices should help stop the spread of the disease.

Prevention. As with boxwood blight, there are several methods to prevent the spread of RRD. Prune roses hard (by 2/3s) in late winter to remove as many overwintering mites as possible, and then spray with horticultural oil to kill any remaining mites. Avoid applying more harmful chemicals as these can kill natural predators that feed on the problem mites. During the months of June and July spray weekly, soaking the new growing tips where mites will congregate. Do not use leaf blowers around roses and protect them from prevailing winds, which will carry mites to other plants. Give roses plenty of space for good air circulation and so mites can’t walk to a neighboring rose. If you do see symptoms, the entire plant, including the roots, should

be removed and destroyed by burning or placing in a plastic bag. When removing diseased plants, do not spread the mites that spread the disease! Bag the plant before removal, cut it at ground level, and then dig out the roots. The good news is that no soil needs to be removed. The disease does not live in the soil like boxwood blight, so the rose can be replaced right away.

The Takeaway



RRD can infect all roses, even the “low maintenance” Knock Out Roses®. These roses have been thriving for years disease-free, due to proper prevention. (Photo: Trisha DeStefano)

It can certainly be a challenge to design a property without specifying roses and/or boxwoods. When planted together, the effect is stunning. But with the threat of boxwood blight and RRD, it can be even more challenging to keep them healthy. But it can be done, and as breeders introduce more resistant varieties into the trade, there is hope for their future. In the interim, landscape professionals have a responsibility to educate both our employees and clients, so they can spot the symptoms, as well as understand and utilize the best horticultural management practices to prevent their spread.

DeStefano is a garden designer and outdoor display horticulturist. She and her husband Rob own [GreenCraft Associates](#), a comprehensive landscape architectural firm based in Hunterdon County, NJ that specializes in high-end residential, commercial, and municipal landscape site planning and design. GreenCraft incorporates sustainable design practices into all of their projects. Providing specialty horticultural services for over 20 years, DeStefano’s field expertise includes the design, installation, and maintenance of perennial, annual, container, and kitchen gardens.

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