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Rose Rosette Disease and the Search for a Solution

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North Central Texas has been at the center of perplexing landscape management problem for the past six years. From the Knock Out® roses in the median of Southlake Boulevard to the Drift® roses that lined Trail Drive in the Will Rogers Memorial Center, Rose Rosette Disease (RRD) has resulted in the removal of countless commercial plantings of roses. Even the venerable Rose Garden at the Fort Worth Botanic Garden (home of beautiful roses since 1933) was rose free from 2015 to 2017.

For the past six years, removal of symptomatic plants has been the only recommended course of action. Even though many roses have been removed from landscapes large and small all over Tarrant County, eradication of all infected roses and therefore RRD hasn't been a practical solution for several reasons:

- Roses are incredibly popular landscape plants. Many cultivars are also tough cookies. From the old garden roses in old abandoned gardens to the new shrub roses in gas station parking lots, there are thousands of plants that no one is even irrigating, much less monitoring for symptoms.
- The symptoms of RRD can be confusing. Some healthy roses are very thorny. Many display perfectly normal reddish new growth. Herbicide injury can result in distorted leaves. As unattractive as infected plants are, some people just don't notice and identify the symptoms.
- The virus that causes RRD can be present in a plant for at least 18 months before some plants will show symptoms. Some cultivars in trials have tested positive for the virus but have yet to show symptoms. It is impossible to know how many asymptomatic host plants are out there.
- Digging out the entire root system of a large rose bush isn't easy. Small pieces

of infected roots that are left behind can graft with the roots of newly installed roses. Some root pieces will be able to send up new shoots, and those shoots can harbor the virus.

From whence comest our help? Lift your eyes up and look to our rose breeders. The same people who gave us roses that are free from powdery mildew and black spot will no doubt find the needle of RRD resistance in the haystack of rose genetics. Dr. David Byrne, holder of the Robert E. Bayse Chair in Rose Genetics at Texas A&M University and Dr. Kevin Ong, Extension Plant Pathologist and Director of the Texas Plant Disease Diagnostic Lab and their hard-working graduate students have been collaborating with rose breeders around the country.

Here in Tarrant County, the City of Grapevine and a hard-working group of volunteers lead by Pam Braak have been partners in the search for resistance in commercially available cultivars. The story of the roses at the Dove Loop Trail Head goes back to March 2005 when 3 plants each of 24 cultivars were installed as an Earth-Kind rose trial. In the summer of 2014, a few plants began to show some symptoms of RRD. In October, ten cultivars showed symptoms and by winter, only the cultivar Lafter remained symptomless. The plants were removed in January 2015.

In June 2016, 16 cultivars from a list of 56 cultivars that had yet to show RRD symptoms were planted. In November 2017, 12 symptomatic cultivars were removed leaving Lafter, Love, Carefree Beauty and Bayse's (yes, that Bayse) Purple in the trial. In December 2017, 12 new cultivars that still have not been observed with RRD symptoms were installed. The search continues.