LOUISIANA PLANT PATHOLOGY
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Rose Rosette Disease

Rose rosette virus

Rose rosette disease is caused by a virus known as *Rose rosette virus*. It is a devastating disease of roses – particularly since all cultivars are susceptible, including Knock Out roses and wild multiflora roses (*Rosa multiflora*).

Rose rosette disease currently seems to be most distributed in Texas, Oklahoma, Arkansas, Kentucky, Tennessee, northern Mississippi, northern Alabama, northern Georgia and Florida. So far, however, rose rosette disease has not been identified in Louisiana.

Symptoms produced by rose rosette disease are highly variable, depending on the cultivar or species of the rose and the plant's age. Several different types of symptoms have been reported on infected roses, but some of the more recognizable symptoms of rose rosette disease include "witch's broom", excessive thorniness, thickened new canes and abnormal discoloration or excessive reddening of new foliage.

Infected roses produce a cluster of new shoots from a single point on the parent canes. The new shoots elongate rapidly and appears like 'witch's broom" (Figure 1). Infected canes produce excessive thorns that are green or red and soft in the beginning but later harden off as the disease progresses (Figure 2). Presence of excessive thorns, especially on newly infected canes, is one of the most reliable symptoms to help with diagnosing rose rosette disease. Another symptom that may be used to diagnose rose rosette disease is that infected canes are thicker than parent canes (Figure 3). Reddening of new foliage and shoots also is related to rose rosette disease (Figure 4). Remember, however, that these symptoms can be used to potentially recognize rose rosette disease but that positive confirmation of the disease requires molecular testing.

Although rose rosette disease produces unique symptoms on roses, those symptoms can be easily confused with symptoms caused by other diseases, pests, stresses and other factors. Improper use of herbicide such as glyphosate (Roundup and many other products), may result in distortion and clustering of new growth that looks like "witch's broom" (Figure 5). Abnormal discoloration and distortion of new foliage has been constantly associated with rose rosette disease, but feeding injury from chili thrips, which is a very significant rose growing issue in Louisiana, also cause similar symptoms (Figures 6). Similarly, excessive reddening of new

Figure 1. "Witch's broom" symptoms caused by rose rosette disease. (Photo by James Jacobi, Auburn University)

Figure 2. Excessive thorns produced by canes infected with rose rosette disease. (Photo by James Jacobi, Auburn University)

growth is a normal character of some rose cultivars (Figure 7).

Rose rosette disease is transmitted by a tiny eriophyid mite, *Phyllocoptes fructiphilus*, or by grafting. The eriophyid mites crawl from plant to plant or move long distances with the wind. The virus is systemic and can persist in the live roots of infected rose bushes, but it is not soil-borne. Grafting of virus infected scions on healthy root stock and vice-versa, may also result in the virus transmission.

Management of rose rosette disease in infected roses is not possible. Once a rose is infected, there is no cure.

Several precautions can be taken, however, to avoid introduction of the disease or to reduce its spread from infected to healthy roses. Remove infected roses completely, including roots. New growth from infected roots may serve as a source of the virus. Dispose of infected roses immediately by burning. If burning is not feasible, bag the infected roses before removal.

The wild multiflora rose is highly susceptible to rose rosette disease and eriophyid mites and may serve as a source for both the virus and the mites. Remove symptomatic multiflora roses that exist in area close to the cultivated roses.

Also, start with disease-free, healthy roses and inspect for any rose rosette disease symptoms before purchasing roses. Properly space out the new roses to avoid mites crawling from one plant to another. Clean tools and other equipment used for pruning.

An integrated management of eriophyid mites, including miticides along with cultural practices, may reduce the population of mites and thus the potential spread of rose rosette disease. Check with your local LSU AgCenter agent or consult the LSU AgCenter's Insect Management Guide for information on use and selection of miticides.

If you suspect rose rosette disease in your roses, consult the LSU AgCenter's "plant doctor" Raj Singh at 225-578-4562 or rsingh@agcenter.lsu.edu.

Figure 3. Canes infected with rose rosette disease are thicker than parent cane. (Photo by Ashley Brake and Molly Giesbrecht, Texas A&M)

Figure 4. Abnormal discoloration and distortion of new foliage caused by rose rosette disease. (Photo by James Jacobi, Auburn University)

Figure 5. Distortion of new growth caused by glyphosate injury. (Photo by Raj Singh, LSU AgCenter)

Figure 6. Distortion of new growth caused by feeding injury from chili thrips. (Photo by Raj Singh, LSU AgCenter)

Figure 7. New growth with normal red pigmentation. (Photo by Raj Singh, LSU AgCenter)

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