

Rose Rosette Virus Symptom Guide

A) Stems/Shoots

1 **Elongated Stems/Shoots.** The shoots may exhibit elongation and seem to grow much taller than the neighboring bushes or even than other blooms on the same bush.



Photo Credit: Kevin Ong, Texas A&M AgriLife Extension Service

2 **Witches' Broom.** Shoots may grow as a prolific cluster of small branches into a somewhat tangled mass of short and deformed buds and stems. The witches' broom can even appear on a symptomatic portion of an otherwise healthy plant.



Photo Credit: Mike Munster, NC State Cooperative Extension Service

Photo Credit: Kevin Ong, Texas A&M AgriLife Extension Service

3 **Red Discoloration.** On healthy plants, the stems appear green, whereas plants afflicted with RRV may show red discoloration of the stems/shoots.

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4 Flattened Stems. This symptom occurs when the growing tip becomes elongated perpendicularly to the direction of growth producing flattened stems instead of cylindrical, rounded stems.



Photo Credit: Jessica Gwinn, Texas A&M AgriLife Extension Service

Thickened Stems. Rose Rosette Virus can cause thickened stems, which should 5 be readily apparent compared to the stems of healthy roses.



Photo Credit: James W. Amrine Jr., West Virginia University

6 Shortened Petioles. The petiole is the stalk that attaches the leaf blade to the stem. Afflicted roses may show shortened petioles compared to nonsymptomatic plants. Healthy plant's leaves may seem to stretch away from the stem more than a diseased rose with shortened petioles.

Spiraled Cane Growth. In some diseased plants, the stem may grow in a slightly spiraled fashion, rather than growing straight up as in normal plants. The thorns may help show if the cane is spiraled, though the symptom may not be dramatic.



Photo Credit: Jessica Gwinn, Texas A&M AgriLife Extension Service



Photo Credit: John Hartman, University of Kentucky

Shortened Internodes. The internode is the space on the stem between the 8 nodes that produce new shoots. On diseased plants, the internodes may be shorter leaving less area between the new growths that branch off from the main stem.



Photo Credit: Jessica Gwinn, Texas A&M AgriLife Extension Service



A) Stems/Shoots continued

9 **Excessive Thorniness.** Rose Rosette Virus may cause an increase in the number of thorns; this symptom is readily apparent when compared to the thorns of healthy roses.



Photo Credit: Molly Giesbrecht, Texas A&M AgriLife Extension Service

10 **Red Thorns.** Roses afflicted with Rose Rosette Virus may show a reddening of the thorns compared to healthy plants, whose thorns usually appear white or green, but may also be red depending on the cultivar.



Photo Credit: Kevin Ong, Texas A&M AgriLife Extension Service

B) Leaves

1 **Red Discoloration.** Diseased roses may show a discoloration of the foliage/ leaves of the plant. The difference between the red, diseased leaves and any surrounding healthy, green vegetation should be readily apparent.



Photo Credit: Kevin Ong, Texas A&M AgriLife Extension Service

Photo Credit: Ashley Brake, Texas A&M AgriLife Extension Service

2 **Dwarfed Leaves.** Diseased plants or even symptomatic portions or otherwise non-symptomatic plants may show leaves that are much smaller than normal, especially on newer shoots.

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be brown, crinkly, and/or dead.

3 **Excessive Leaf Growth.** Diseased plant parts may show an increase in leaf growth compared to non-symptomatic or healthy plants.

Dead Leaves. Some of the leaves in the symptomatic portions of the plants may



Photo Credit: Ashley Brake, Texas A&M AgriLife Extension Service

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Photo Credit: Ashley Brake, Texas A&M AgriLife Extension Service

C) Flowers

1 **Deformed Buds.** Buds form at the tip of a stem and may blossom into a flower. Rose Rosette Virus can cause developing buds to become deformed from the typical structure of a healthy bud. The appearance of this symptom can be highly variable.

Unusually Long, Thin Leaves. "Strapped leaves" may be present and look as

plant on the left to the normal leaves on the right.

though the leaves are rather long and thin compared to leaves on healthy plants or non-symptomatic parts of the same plant. Compare the leaves of the diseased



Photo Credit: Ashley Brake, Texas A&M AgriLife Extension Service

Photo Credit: Mary Ann Hansen, Virginia Polytechnic Institute and State University

2 **Deformed Flowers.** Rose Rosette Virus can cause the actual rose flower structure to become malformed. Though the manifestation of this symptom is highly variable, it is generally obvious when compared to the look of the normal rose flowers.

3 **Buds Don't Open.** Aside from any deformities of the buds, the buds may not blossom and may remain closed.



Photo Credit: Ashley Brake, Texas A&M AgriLife Extension Service

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