CROWN GALL ON ROSES  by C. Geertsen

While digging around my healthy Gemini rose bush I was surprised to find a mass of woody, bulbous growths, just under the top of the soil. They broke off easily. Bad news: crown gall. Because it was under the soil, it snuck up on me.

Your rose may look pretty good like mine did. Or it might appear stunted, because its flow of water and nutrients has been interrupted. There may be fewer blooms, chlorotic yellowed leaves and slow growth. Canes might die back.

My Gemini looked pretty good, but it didn’t grow new canes on the side where the gall was.

Suspect crown gall if a vigorous rose isn’t vigorous. Maybe you have a rose that has declined... it might be crown gall.

THE BACTERIA
Crown gall is a disease caused by the bacteria Agrobacterium tumefaciens. It lives in the soil. The bacteria usually comes into our gardens on the roots of an infected plant.

It spreads to other plants via contaminated tools, soil and water. (It affects plants other than roses too.)

The bacteria will enter a rose through a wound caused by planting, pruning, grafting, chewing insects, frost damage, or cultivating. Wounded roots release chemicals that attract the bacteria. The nerve!

The bacteria can remain dormant in the soil for more than two years, even without a rose in sight.

THE GALL
Once the bacteria is in the trouble begins. Genetic and hormonal disruption causes infected cells to divide uncontrollably and grow to unusually large sizes. The gall forms.

You will recognize crown gall by the formation of large corky growths from a quarter inch up to several inches in diameter. Usually you will see them at soil level or just below.

The bacteria may move internally up into the canes, causing galls above ground. Or galls can appear on pruning cuts made with infected tools. Any cut is vulnerable to bacteria introduced by rain splashed soil.

New galls are rounder, light colored and slightly spongy. Older ones are hard and dry with rough cracks.
Cells within the growing gall lack normal differentiation where different cells conduct water or nutrients. The gall can’t get enough water or food and decay begins. The gall rots away from the plant, releasing bacteria into the soil. Bad.

PREVENTION
Prevention will serve you well. Do not plant any rose, tree or shrub with galls on the roots or stems. Examine roses, fruit trees, poplars and willows with extra care.

When you are working around your roses, keep an eye out for crown gall. You can catch it earlier than I caught mine. In this case, bigger is not better.

Keep your pruning tools sharp so your cuts are clean. When you transplant and have to cut a root, prune it cleanly.

When you plant a rose, be quite careful not to damage its roots. If you find damaged or broken roots, prune them cleanly above the damage.

Pruning instructions always include “Prune back damaged canes.” Here’s one more reason why.

Disinfect any tools you use on an infected rose by soaking them in a 1 part bleach to 10 parts water solution for several minutes.

Check neighbor roses. There are four other roses in the same bed with my Gemini. I laid back the soil around them and didn’t see any sign of gall. I plan to disinfect my tools while working in that bed for several years.

A metal rose ID tag was wedged in between the gall and my rose. It was the second rose I ever planted and I had left the tag on for identification. It was wired to the rose. It looks like it cut the rose as the rose grew and may have made the wound where the bacteria entered the rose bush. It’s possible. If I got a rose now with a tag like this, I’d move it up onto a side branch and attach it loosely.

FIX
When you find a rose with crown gall, dig up the entire plant, its roots and the soil around it. Dispose of it all. (Don’t even think of putting the rose carcass in your compost pile or re-using the soil.) I dug out an area 2 ½ feet wide by 2 feet deep and replaced the soil. I’m told it’s ok to replant now. I’ll plant a new rose in the same spot next year and watch it carefully.

If you have galls on your stems or canes, carefully prune those parts away. Check those roses for crown gall below the soil surface just in case. Be really good about disinfecting tools after each cut as you work on roses with gall on their stems or canes.

-Corinne Geertsen, Webmaster Mesa-East Valley Rose Society