

Crown Gall

Crown gall is one of the most common diseases of roses. It is caused by the bacterium *Agrobacterium tumefaciens* which has a very wide host range attacking many other woody plants from fruit trees to vines and brambles and herbaceous perennials and annuals. Only *A. tumefaciens* which carries a Ti plasmid (small piece of DNA) can cause crown gall. *Agrobacterium* is present in nearly all soils regardless of agricultural use history.

SYMPTOMS

The disease is called crown gall because the galls typically are on the plant's crown right at the soil line. Galls sometimes form on roots or above ground if a contaminated cutting tool is used to prune them. Galls above ground more or



less rounded, and shows cracks or lumpy texture. Galls become more woody, dry and corky as they age. They can reach up to 4 inches wide (usually takes years on rose) and sometimes girdle the stem.

CULTURAL CONTROL

Agrobacterium is primarily spread through infected plants and cutting tools. Avoid wounding canes since infected roses may not



show any symptoms until they are wounded. This can include pruning, mechanical weed control that injures canes and even cold damage from freezing.

Crown gall is known to be systemic in rose. Therefore - never assume that a plant with only one gall can be

used for propagation since the bacterium is scattered irregularly throughout the rose plant.

STEPS TO PREVENT SPREAD

Reuse of pots which have had a plant with crown gall is not a good idea. However, you can reduce chances of carrying over the disease to a new crop if the pots are rigorously cleaned and disinfested (with a quaternary ammonium type or chlorine product or aerated steam).

Use a pre-shearing or trimming spray if you can. While copper will not prevent crown gall it will kill surface bacteria. This should be done the day before the plants are sheared and pruned.

When shearing plants, collect all crop debris and remove from the growing area.

Good sanitation methods include a spray with KleenGrow (or UpTake) or a copper may provide limited benefits.

Clean the shearing machine with a quaternary ammonium, peroxide or chlorine disinfectant according to labeled rates.

If you find roses (or other plants) with galls, remove and discard the entire plant. Treat the immediate growing area (gravel etc.) with a disinfectant.