This bacterial disease of geraniums has been common in Kentucky greenhouses over the previous years and continues to be a problem periodically. The disease can especially be a problem when young plants are overcrowded and forced too rapidly. Bacterial blight also occurs on garden geraniums. Warm, humid, moist conditions favor the development of this disease. The causal bacterium (Xanthomonas pelargonii) attacks leaves, stems and cuttings.

Symptoms

**Leaf Blight**

Within a few days after infection, circular or irregular, brown, sunken spots may become visible. The spots are well defined, rarely coalescing. This stage is followed rapidly by necrosis and wilting of the leaf. Infected leaves either fall off or droop and hang on the plant for a week or two.

In certain varieties (e.g. Sincerity) symptoms begin as a wilting of the leaf margins. Infected areas rapidly become necrotic in angular patches bounded by the veins. Later, the smaller veins will appear dark, almost black due to systemic infection. Several other problems (e.g. Botrytis Blight) can cause angular necrosis of this type, however, the additional presence of the limp condition of the leaf generally indicates this bacterial infection.

**Stem Rot**

The stem rot phase is commonly called “black rot”. Vascular bundles (water conducting tissues) in the stems and branches become brown to black within two to four weeks after infection. Soon the bacteria infect the pith and cortex of the stem, causing black or brown discoloration. The stem rapidly discolors and rots. Leaves wilt and then drop off as the stem rot progresses. The roots become blackened but not decayed.
CUTTING ROT
Stock plants infected with the bacterium may appear symptomless and healthy, as the bacterium remains latent waiting for suitable conditions to favor disease development. The moist, warm conditions necessary for rooting favors bacterial blight. Cuttings taken from diseased stock plants may fail to root and slowly rot from the base upwards. The bacterium can be transmitted to adjacent healthy cuttings in a rooting bed via infected cuttings. An infested cutting knife can also carry the *Xanthomonas* organism to previously healthy cuttings. As the cutting rot progresses, the leaves wilt and often show the angular necrosis and wilt symptoms described above. Within two to four weeks after taking the cuttings, the stems become a dull blackish-brown, as they do with the typical stem rot.

Frequently, cuttings do not rot, and the bacterium remains latent in plants until after they are sold and planted in the landscape. Such plants, although symptomless at the time of sale, soon become a liability in the landscape.

Disease Management
The bacterium is extremely infectious and may survive long periods in moist soil. The bacterial blight organism may be spread by contact, splashing water and contaminated cutting tools. Infected plants cannot be cured. Control measures are based on establishing disease-free stock plants and practicing strict sanitary measures:

1. Destroy diseased plants
2. Use a disinfectant to clean-up cutting benches and tools
3. Take cuttings only from healthy plants
4. Avoid overhead watering, splashing and wetting leaves
5. Space plants to provide for good air circulation
6. Avoid frequent handling of plants in order to reduce the chance of disease spread by equipment or hands
7. Control white flies which can carry the bacterium from diseased to healthy plants
8. When purchasing cuttings, be sure they are culture-indexed and free of disease.

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