Rose Diseases

College of Agricultural, Food, and Environmental Sciences

F.L. Pfleger, *Professor*
S.L. Gould, *Assistant Scientist*
Department of Plant Pathology

Roses are vulnerable to many diseases. Fortunately, few of these diseases are common in Minnesota. Black spot, powdery mildew, and Botrytis blight may afflict Minnesota's roses. Other diseases in the state are rust, cankers, crown gall, wilt, and viruses.

Such diseases can be managed by following these recommendations:

- Buy certified stock free of disease;
- Keep plants free of weeds, fallen leaves, and disease-infested plants or canes;
- Use spray programs and cultural methods suggested in this fact sheet.

Black Spot is caused by the fungus *Diplocarpon rosae.* The disease can cause almost complete defoliation of bushes by early fall. It produces a weakened bush on which cane dieback, stem canker, and winter injury can become severe.

Symptoms: Circular black spots ranging from 1/16 inch to 1/2 inch in diameter appear generally on leaves' upper sides. The spots are frequently surrounded by a yellow halo. Infected leaves characteristically turn yellow. They fall prematurely. This leaf spot can be distinguished from others by the fringed margin and consistently black color. Cane infection produces a reddish-purple spot. In many varieties, pale flower color is also indirectly caused.

Disease Cycle: Black spot is spread by splashing water. Infection occurs after leaves are wet for several hours. Therefore, the disease is more serious during periods of rainfall.

Control: A preventive program for black spot should begin with a thorough cleanup in the fall. Diseased leaves on the ground should be raked and destroyed. All diseased canes should be pruned off by cutting several inches into good wood. These precautions reduce overwintering fungi.

A fungicide program should start in the summer just before leaves become spotted. From then until frost, the leaves may require a protective fungicide coating. When the leaves are growing rapidly or during rainy weather, it may be necessary to spray the plants two times a week. However, if growth is less rapid and rains are less frequent, spraying at 7 to 10 day intervals is usually sufficient. Proper timing is as important as the chemical spray. A preventive spray program can include the chemicals listed in table 1.

Powdery Mildew is caused by the fungus *Sphaerotheca pannosa.* This disease can cause young leaves to curl and turn purple. Young canes may be distorted and dwarfed. If seriously infected, they can die. Badly infected buds do not open.

Symptoms: Leaves, buds, and stems are covered with a white powdery coating.

Disease Cycle: The white fuzzy growth on the leaf surface contains thousands of fungal spores. Wind carries these spores to young leaves, causing more infection. Mildew diseases of other plants do not infect roses. Mildew develops rapidly during warm, humid weather.

Figure 1. Black spot.

Control: Throughout the growing season, the infection can be reduced through sanitation and fungicide application. Pruning and destroying all dead or diseased canes in the spring will reduce the initial fungus population. During the growing season, all diseased leaves should be destroyed. New growth is especially susceptible; therefore, a thorough spray or dust coverage of canes and upper and lower leaf surfaces (especially growing tips) is essential. Under most conditions, weekly applications are adequate; however, treat more often during rapid new growth, temperature fluctuations, and frequent rains. A preventive spray program can include chemicals listed in table 1.

Botrytis Blight is caused by the fungus *Botrytis cinerea.* The disease causes flower buds to droop and remain closed. Buds turn brown and decay. Sometimes partially opened buds are attacked, and an entire flower may be covered by gray fungus.

Symptoms: A smooth, slightly sunken, grayish-black lesion may develop just below the flower head. The bud is destroyed. It frequently hangs over at or near the lesion. The fungus may also infect stub ends of stems from which flowers have been cut.

University of Minnesota Extension Service

Figure 2. Powdery mildew.

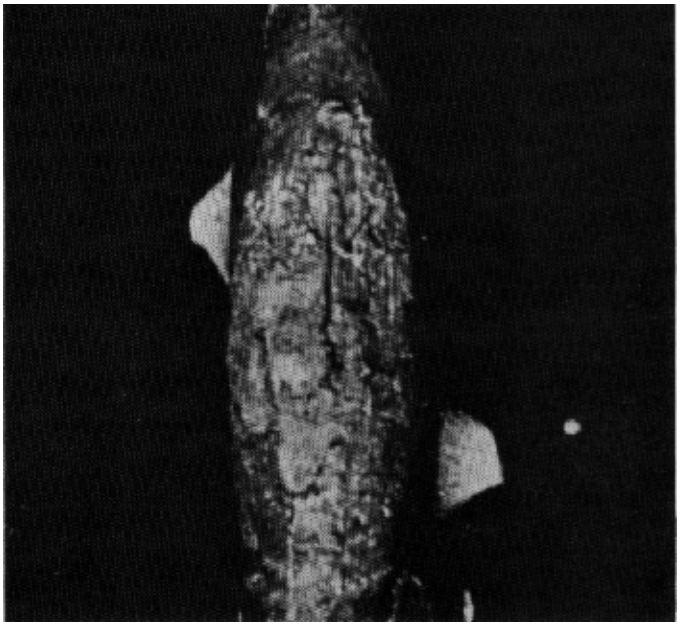

Figure 3. Rose stem infected with brown canker fungus. Note the dark swollen area on the cane, characteristic of this disease.

Disease Cycle: Botrytis is a gray fungus that generally lives on dying tissue. With the right conditions, any dead plant tissue can release thousands of Botrytis spores. Botrytis infection occurs when water remains on leaves or buds.

Control: Cut and destroy all infected blossoms as soon as they droop or die. To prevent large numbers of fungal spores, remove dead plant material on which spores are produced. Fungicide application may be necessary. A preventive spray program can include chemicals listed in table 1.

Brown Canker is caused by the fungus *Cryptosporella umbrina.* The disease is commonly found on outdoor roses and occasionally on greenhouse-grown roses. The fungus is capable of attacking any portion of the plant above ground and can result in death of the entire stem.

Symptoms: Small red to purple spots appear on the current year's canes and with time, these spots usually develop into gray-white lesions on the stem surface. A whitish patch can be seen as the small spots are massed together. Oftentimes little damage occurs the first year; however, in time the white lesions continue to enlarge and brown cankers (several inches long) form, girdling the stem resulting in death (figure 3). The cankers may extend down into the crown of the plant and may destroy the entire plant.

Disease Cycle: The fungus overwinters in infected canes and spores can be spread to healthy canes by splashing water, wind, and pruning tools. However, the pathogen can only enter plant tissue through wounds.

Control: If a new rose planting is to be established, care should be taken to select disease-free planting stock to prevent the introduction of brown canker. In established rose plantings, all dead and dying canes should be pruned out and destroyed. In removing diseased canes, make cuts well below the diseased areas. Before each cut is made it is advisable to dip the pruning shears in a 1:10 chlorine bleach:water dilution. Since this pathogen enters the stem through wounds, care should be taken to avoid stem injury.

Table 1.

Chemical	Formulated Products	Disease				
		Black Spot	Botrytis	Powdery Mildew	Rust	Brown Canker
Captan	Captan 50% WP	+	+	+		
Chlorothalonil	Daconil 2787; Fungicide with Daconil; Multipurpose Fungicide	+	+	+		
Copper	Copper Fungicide; Blackspot Control; Phyton 27	+		+		
Lime-Sulfur	Dormant Disease Control; Lime-Sulfur Spray	+		+	+	
Mancozeb	Mancozeb Flowable with Zinc	+	+			
Sulfur	Garden Sulfur; Dusting Wettable Sulfur; Sulfur Dust	+		+	+	+
Thiophanate-methyl	Halt; Rose and Ornamental Fungicide	+	+	+		
Triforine	Funginex; Orthenex	+		+	+	

FS-1163-A
Revised 1998

www.extension.umn.edu

Additional copies of this item can be ordered from the University of Minnesota Extension Service Distribution Center, 405 Coffey Hall, 1420 Eckles Avenue, St. Paul, MN 55108-6068

e-mail: order@extension.umn.edu or credit card orders at 800-876-8636 or 612-624-4900 (local calls). Produced by Communication and Educational Technology Services, University of Minnesota Extension Service. In accordance with the Americans with Disabilities Act, this material is available in alternative formats upon request. Please contact your University of Minnesota county extension office or, outside of Minnesota, contact the Distribution Center at 800-876-8636. The University of Minnesota Extension Service is an equal opportunity educator and employer. Printed on recycled paper with minimum 10% postconsumer waste.