



# COMMON DISEASES OF ROSES

Rose growers find that two diseases, black spot and powdery mildew, are fairly common in Nova Scotia, while rose rust is an occasional problem. Black spot and powdery mildew often require repeated applications of fungicides; however, it is possible to lessen the impact of these diseases by sanitation (prompt removal of infected plant parts) and the selection of disease-resistant cultivars. This factsheet describes how black spot, powdery mildew and rust affect roses and some steps to take to avoid these diseases. The relative resistance or susceptibility of many rose cultivars is listed in a table at the end of this fact sheet.

## PREVENTING DISEASE PROBLEMS

Choose cultivars (cultivated varieties) with resistance to black spot, powdery mildew and rose rust. Refer to the table of cultivar disease reactions at the end of this fact sheet. This general guide, from the British Columbia Nursery Crop Production Guide for Commercial Growers, is based on field observation and has been adapted for Nova Scotia. Although the organisms causing these diseases can infect a resistant variety if the disease is prevalent and the weather favors infection, resistant varieties generally show less damage and require fewer fungicide applications.

## BLACK SPOT

The fungus causing black spot produces black, nearly circular lesions on the upper leaf surface. The lesions are 2 to 12 mm in diameter with fringed margins. Leaf tissue surrounding the spots turns yellow and, as the infection becomes more severe, the infected leaves fall. Young leaves are most susceptible. Petioles, peduncles, fruit,

sepals and petals may also be infected. Raised, irregularly-shaped, reddish-purple to black blotches develop on the immature wood of first-year canes. Tiny black flecks may form on the leaves of resistant varieties in response to the fungus.

### Black Spot On Rose Foliage

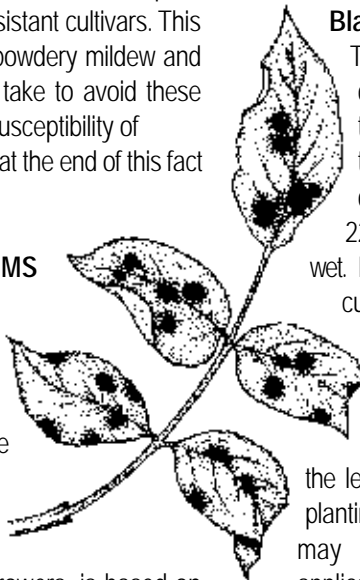
The fungus overwinters on fallen leaves and diseased canes. It tolerates a range of temperatures from 15 to 27°C, but is most able to infect rose leaves at temperatures between 19 and 21°C. Symptoms develop within 3 to 4 days at temperatures between 22 and 30°C. Infection can only occur when leaves are wet. During extended periods of cool, wet weather any cultivar may be seriously infected.

### Control

Pick up fallen leaves and prune canes that contain black spot lesions. Allow good air circulation through the leaf canopy, both by spacing plants properly when planting and by pruning to open up the plant. Fungicides may be required for susceptible cultivars. Begin applications as leaves expand in the spring, spraying at intervals of 10 to 14 days. Fungicides active against black spot are benomyl, thiophanate-methyl, triforine, folpet, ferbam and lime sulphur.

## POWDERY MILDEW

Rose types and cultivars vary in susceptibility to powdery mildew. Some climbers are especially susceptible. A white powdery fungus growth covering the leaves and young shoots is often the first sign of the disease. The younger leaves tend to curl, exposing the lower surface. If the infection is severe, the growing tip may be killed; infected buds cannot open properly and leaves drop prematurely. The disease can easily be identified by the felt-like white fungus covering the diseased areas.



### **Powdery Mildew on Rose Foliage**

Young succulent plant tissue is most susceptible to infection. As the rose tissue ages, it becomes more resistant. Temperature, relative humidity and the presence of free water greatly influence the growth of the fungus. The optimum temperature for growth is 20 to 25°C with high relative humidities of 97 to 99 per cent. The fungus is less able to infect the plant if its leaves are wet. Frequent misting of the foliage prevents infection by powdery mildew but, unfortunately, this provides ideal conditions for the growth of black spot.

### **Control**

Powdery mildew can be controlled by cultivar selection (see table) and sanitation. Since the fungus overwinters on infected canes, in buds or on old leaves, it is important to prune infected plant parts and remove leaves before new growth starts in the spring. If you plant susceptible varieties, ensure the location is sunny with good air circulation. Pruning rose canes to ensure good air circulation may also help.

Fungicides may be required for susceptible varieties. Fungicides active against powdery mildew include folpet, lime sulphur, sulphur, triforine, thiophanate-methyl and benomyl. These chemicals are contained in a number of home garden pesticide products.

### **ROSE RUST**

Although more widespread in western Canada and the United States, there are a number of different rusts that may occur on roses in Nova Scotia. The disease first appears as powdery orange pustules on the underside of leaves. These pustules are inconspicuous in early spring, but as they develop they become more noticeable. The upper leaf surface turns light yellow and leaves may fall. Young stems may also be attacked. In the fall, black pustules, which serve as overwintering structures for the fungus, develop amid the orange pustules on leaves and stems.

Rust develops best at a temperature of 18 to 21°C. The leaf surface must be continuously wet for 4 hours for infection to take place. The disease can repeat itself every 10 to 14 days in favorable weather.

### **Control**

Remove infected leaves during the growing season and rake and remove all leaves in the fall. Prune out old canes early in the year before new leaves develop. As cultivars differ greatly in their susceptibility to rust, select resistant cultivars is possible. Susceptible cultivars many require fungicides for control.

For a list of Rose (*Rosa* spp.) Cultivar Reactions to Common Diseases (Black Spot, Powdery Mildew, Rust) see <http://agri.gov.ns.ca/pt/hort/garden/rosepow.htm>

References to products in this publication are for your convenience, and are not an endorsement of one product over other similar products. Use materials according to the manufacturer's current label directions.

Nova Scotia Department of Agriculture and Fisheries Publication PIHG95-16, extracted from the internet at <http://agri.gov.ns.ca/pt/hort/garden/rosepow.htm> Writing: R.W. Delbridge, Artwork: Twila Robar-Decoste (1995). Funding provided by the Canada/Nova Scotia Agreement on the Agriculture Component of the Green Plan

**Always use a registered domestic class pest control product labeled for powdery mildew control on ornamental plants and carefully follow the label directions.**