

Black spot of rose

The fungus *Diplocarpon rosea* (sexual stage) or *Marssonina rosae* (asexual stage) causes black spot of rose.

Host Plants:

This black spot fungus only infects *Rosa* species.

Description:

Dark brown to black, rounded spots develop on leaves and canes. Initially lesions on first year canes are reddish colored but as the fungus matures, they darken. Small, black fruiting structures (acervuli) develop in the spotted tissue.



Leaf spots caused by *Marssonina rosae*.

Photo: A. S. Windham, *Diseases of Woody Ornamentals and Trees*. APS Press.

Throughout the growing season, repeated black spot infections occur during wet periods. Eventually, spotted leaves turn yellow and drop prematurely from the rose. Repeated premature leaf loss weakens plants and they fail to thrive and are more prone to winter damage.

Disease Cycle:

Black spot survives the winter in infected leaves and canes. Rainy spring weather disperses spores (conidia) from fruiting structures (acervuli) and provides wet conditions for them to germinate on new leaves and canes. Seven hours of wetness at 65° to 75° F is sufficient for infection to take place. The black spot fungus penetrates the cuticle and grows between cells to infect the rose. New acervuli develop in the center of the lesions and release conidia that initiate new infections when conditions are wet long enough. This cycle repeats numerous times during the growing season.

Management Strategies:

Because the fungus occurs in various pathogenic races, it is difficult to select for black spot resistance. However, there are rugosa, hybrid tea, floribunda, grandiflora, shrub and miniature roses that have some degree of resistance. For example, highly resistant cultivars include Bebe Lune, Carefree Beauty, Coronado, David Thompson, Ernest H. Morse, Fortyniner, Grand Opera, Lucy Cromphorn, Simplicity, Sphinx, and Tiara. Grow roses where good air circulation and sunlight penetration facilitate rapid leaf drying. Irrigate to avoid wetting the leaves or water early in the day so the leaves dry quickly. Fungicides are useful during periods when the weather is wet to protect leaves and canes from infection. Begin in early spring and maintain the protection as needed throughout the growing season if wet conditions exist.

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