



Nature and Prevention of Black Spot Disease

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ABOUT THE STUDY

Black spot, also spelled blackspot, common disease of a variety of plants caused by species of *Pseudomonas* bacteria or by any number of fungus species in the genera *Asterina*, *Asterinella*, *Diplotheca*, *Glomerella*, *Gnomonia*, *Schizothyrium*, *Placosphaeria*, and *Stigmaea*. Infections occur during damp periods and appear as round to irregular black spots on leaves and sometimes on petioles, stems, and flower parts of susceptible plants. Black spot of roses is a serious widespread disease caused by the fungus. On rose plants, the spots are roundish and up to 1 cm in diameter with fringed margins. Leaves on susceptible varieties turn yellow and drop early. Affected plants fall twice a season, become extremely weak, have fewer flowers, bloom inferior flowers, and can be exposed to ulcer disease and winter death.

Numerous spores are formed in patch-sized fruit structures and spread by sprays, dew, overhead irrigation, and gardeners working among moist plants. The spores germinate and penetrate the rose tissue in 9-18 hours or more. New leaf spots appear in 3-16 days and spores appear in 10-18 days. This cycle can be repeated throughout the growing season. Black spots can be controlled by applying fungicides, planting resistant varieties and quickly removing infected leaves.

SYMPTOMS AND DIAGNOSIS

Black spots, one-tenth to one-half in diameter, first appear on the upper surface of the leaves. The area adjacent to the black spots turns yellow and the leaves fall prematurely. It usually starts at the bottom of the plant and goes up. Although less common, purple spots appear on the immature wood of a one-year-old cane. These spots later turn black and can form blisters. Like most fungal

diseases, black spots are caused by a moist, moist environment and low temperatures, probably early in the growing season. If left unchecked, the loss of leaves can weaken your plants and inhibit bloom development.

Black spot usually won't kill your plants during the first year or two, but if it continues unabated, it will make them more susceptible to other diseases and unable to survive harsh winters. The disease overwinters in diseased canes and infested fallen leaves. The fungal spores germinate in the spring and are disseminated by splashing water. Fungal spores on the leaf surface must be continuously wet for at least seven hours for infection to occur. Once infection is established, the fungus will develop fruiting bodies called acervuli in black lesions which, in turn, produce spores that splash to new tissue, spreading the disease.

Black spot can be very difficult to control once it's well established. Here are a few things you can do to help prevent black spot from infecting your roses: Keep the foliage as dry as possible, since the spores need a wet surface in order to germinate. Avoid overhead watering, or water early in the day so the foliage has time to dry before nightfall. Improve the air circulation around your roses by spacing them properly and pruning them regularly.

Grow roses in a place exposed to a lot of sunlight. This will speed up the drying of the leaves. If the rose is infected, remove the diseased leaves and dispose of them. Also, cut out the infected stick and discard it. Removes all leaf and plant debris from the rose garden in the fall and prevents black spots from overwintering and returning in the spring when new growth begins. Even in the harsh winters, it does not kill spores that may be dormant in the garden.

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