



## DISEASES OF LANDSCAPE PLANTS

# Rose Black Spot

Rose black spot is a plant disease caused by the fungus *Diplocarpon rosae*. It is the primary cause of rose defoliation in the Midwest. Over time, repeated defoliations can weaken the plant, reducing flowering. Severe defoliations that result in a loss of most of the leaves, and repeatedly occur, predisposes the plant to insect attack, other diseases, winter injury, and even death.

Janna Beckerman

Department of Botany  
and Plant Pathology,  
Purdue University

### Symptoms

Roses infected with black spot primarily develop dark spots on the upper leaf surface in the late spring (Figure 1). Some of these spots occasionally develop feathery edges and can expand up to 1/2-inch in diameter. The leaf spots may also have yellow halos surrounding them. With severely infected plants, the leaves may turn yellow prior to leaf drop. In severe cases, the canes may have small purplish spots on the current year's growth.



**Figure 1.** As the name suggest, rose black spot produces black spots on foliage. These lesions can be up to 1/2-inch in diameter. Severe infections result in yellow leaves that are shed prematurely.

## Disease Cycle

The disease cycle typically begins on fallen leaves or canes that were infected the previous season. Rain or sprinkler irrigation splashes fungal spores from infected leaves that were shed the previous year to the plant's lower leaves. The spores must remain wet for several hours for infection to occur. Symptoms can become visible within 72 hours after infection during warm, wet weather, and a secondary infection cycle can develop within 10 days after the initial infection.

The fungus that causes this disease tolerates a wide range of temperatures, and symptoms can continue to develop all season long if moisture is adequate. The fungus overwinters in infected canes and fallen leaves.

## Management Options

Rose black spot problems can be avoided by planting cultivars and hybrids that have resistance to this and other defoliating diseases, such as powdery mildew, anthracnose, rust, and *Cercospora* leaf spot (see below). There are cultural and chemical control practices to manage this disease in susceptible varieties.

## Cultural Management

For susceptible varieties, a thorough sanitation program in the fall is needed to minimize the disease the next spring. Remove fallen diseased leaves and burn or dispose of them properly—do not compost as it does not eliminate the source of this disease. In the spring, prune back diseased canes to healthy wood prior to budbreak.

During the growing season, avoid overhead irrigation to minimize leaf wetness. If overhead irrigation cannot be avoided, then water plants in the morning so the leaves dry quickly as the temperature increases.

## Chemical Management

It is important for homeowners to understand that susceptible roses require frequent fungicide applications (every 7-14 days on average) over the course of the summer. The key to successful chemical management is preventing infection. Fungicides registered for black spot control should be applied to susceptible roses first in the spring before new leaves develop symptoms. Then, susceptible plants should receive regular fungicide applications every 7-14 days throughout the summer until the first frost to prevent infection.

Fungicides registered for black spot control are in Table 1. Most fungicides labeled for rose black spot can be sprayed at 7-14 day intervals when rains are infrequent, and up to 21 days for professionals using strobilurin fungicides. During rainy periods, it may be necessary to spray the plants more frequently.

Table 1. Fungicides Labeled for Rose Black Spot Management

Trade Name	Active Ingredient	Frac Code	Systemic or Protectant	REI	SITE <sup>1</sup>
Avelyo	mefentrifluconazole	3	S	12 h	G, N, L, S, I
Banner Maxx*, Propiconazole*	propiconazole	3	S	24 h	N, L
Broadform	trifloxystrobin + fluopyram	7 + 11	S	12 h	G, N, L, S, I
Camelot O	copper	M	P	4 h	G, N, L, S, I
Captan	captan	M	P	48 h	G, N
Cleary's 336*, OHP6672*	thiophanate-methyl	1	S	12 h	G, N, L, S
Compass	trifloxystrobin	11	S	12 h	G, N
Concert II	propiconazole + chlorothalonil	M + 3	S + P	12 h	N, L
Daconil, PathGuard	chlorothalonil	3	P	12 h	G, L, I
Disarm, Fame	fluoaxastrobin	M5	S	12 h	G, N, L, S, I
Eagle, Systhane	myclobutanil	11	S	24 h	G, N, L
Heritage	azoxystrobin	3	S	4 h	G, N, L, S
Mural	azoxystrobin + benzovindiflupyr	11	S	12 h	G, N, L, S
Orchestra	fluxapyroxad + pyraclostrobin	7 + 11	S	12 h	G, N, L, S, I
Pageant Intrinsic	pyraclostrobin + boscalid	7 + 11	S	12 h	G, N, L, S, I
Palladium	cyprodinil + fludioxonil	9 + 12	S	12 h	G, N, L
Protect DF, Dithane	mancozeb	M	P	24 h	N
Rubigan*	fenarimol	3	S	12 h	N, L
Spectro 90	thiophanate-methyl + chlorothalonil	M + 1	S + P	12 h	G, N, L
Strike*, Bayleton*	balyeton	3	S	12 h	G, N, L
Sulfur	sulfur	M	P	varies	
Terraguard	triflumazole	3	S	12 h	G, N, L
Torque	tebuconazole	3	S	12 h	N, L
Tourney	metconazole	3	S	12 h	N, L
Trinity	triticonazole	3	S	12 h	G, N, L, S, I
Zyban WSB	thiophanate-methyl + mancozeb	M + 1	S + P	24 h	G, N, L, I

\* resistance may be an issue

<sup>1</sup> G = Greenhouse; N = nursery; L = landscape; S = shadehouse; I = interiorscape

## Resistance

Planting roses with black rose spot resistance is the most effective management strategy (Figure 2; Table 2). Disease resistant roses are touted as being less susceptible to rose black spot, as well as powdery mildew, rust, anthracnose, and all the other major diseases in the Midwest. As a result, these roses require less maintenance than those that are susceptible to these diseases. Note that the degree of resistance varies depending on care, site conditions, and local environmental conditions. It is important to stress that many disease-resistant roses that contain *R. rugosa* in their genetic background should not be sprayed with fungicides containing chlorothalonil, as severe phytotoxic (plant damaging) reactions may occur.

## Disease-Resistance Shrub Roses for the Midwest

The following list includes some of the disease-resistant shrub roses currently available that have been observed to perform well in the Midwest (Table 2).

*Table 2. Disease-resistant shrub roses currently available that have been observed to perform well in the Midwest.*

Type	Disease-Resistant Varieties
Buck Roses	Amiga Mia, Applejack, Carefree Beauty, Country Dancer, Goldenwings, Prairie Wren, Prairie Princess
Canadian Explorer® Series	Alexander Mackenzie, Captain Samuel Holland, Charles Albanel, David Thompson, Henry Charles Albanel, David Thompson, Henry Hudson, John Cabot, John Davis, Lambert Close, Will Aldermann, William Baffin
Easy Elegance Garden Path® Series	Golden Eye, Sunrise Sunset, Great Wall, My Hero, Tahitian Moon, Paint the Town
Knock-Out® Series	Knock-out, Double Knockout, Pink Knock Out, Pink Double Knock Out, Rainbow Knock Out, Blushing Knock Out, Sunny Knock Out
Parkland Series	Morden Sunrise, Morden Snowbeauty, Prairie Joy
Rugosas	Belle Pointevine, Blanc Double de Coubert, Dart's Dash, Frau Dagmar Hartupp, Magnifica, Pavement Series, Pink Grootendorst, Therese Bugnet
Other Noteworthy Series and Cultivars	Flower Carpet, Haidee, Konigin von Danemark, Lavender Lassie, Sir Thomas Lipton, Two Sisters, The Meidiland Series, Bonica, Home Run, The Fairy, Morden Series



Photo by Janna Beckerman

**Figure 2.** William Baffin is a cold-hardy, floriferous rose. It can grow to 12 feet tall with an almost equal spread in as few as three years.

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