

Controlling Rose Fungus Diseases

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If you ask any rose grower in Virginia what is the biggest problem in growing roses, they will probably reply, "Blackspot". There are other fungus diseases that can be a problem such as Powdery Mildew, Downy Mildew, and Botrytis, but I will not attempt to cover them in this article. Also, insects such as thrips, aphids, and Japanese beetles can cause us some anguish, but ultimately do not do any lasting damage to our bushes. In my opinion, the critters that can really do the most damage to our rose bushes are Spider Mites, which become active with hot, dry weather. Because they are too small to be readily seen with the naked eye, they can begin to defoliate a bush before we realize we have a problem. I will leave insects and Spider Mites and their control for another article, and only say that one of the best controls for Spider Mites is washing them off the underside of the leaves--where they live--with a high pressure stream of water.

Blackspot (*Diplocarpon rosae*) is not only the most important disease of roses all over the world, but also in the state of Virginia. In climates that have high amounts of rainfall and high humidity, it is difficult to control and, normally, a major problem of rose growing. The pathogen has been widely distributed with cultivated roses.

Well, what does Blackspot look like? Black circles or irregular blotches of 1/8 to 1/2 inch with yellow margins form on the upperside of leaves and may blend to form blotches on leaves and canes. In severe cases, the entire leaf will turn yellow and fall from the plant (*abscission*). The lower foliage is attacked first and then it may spread over the entire bush. Bushes will generally put on new leaves, but each time this happens, it stresses and weakens the plant. Eventually, you may lose the bush unless you get the Blackspot under control.

So what can we do to control this fungus disease? Good sanitation is extremely important. All infected leaves, both those on the bush and on the ground, should be disposed of to keep the diseases from spreading. When you do your major pruning at the beginning of the new season, never leave last year's leaves on the bush. Blackspot gets started in the Spring from the spores on old leaves and canes. Good air circulation around bushes hastens drying and reduces Blackspot.

In addition to good sanitation, where Blackspot is a serious problem, a regular program of spraying with fungicides is necessary for maximum control. Leaves have to be wet continuously for 7 hours for the spores to germinate. Most fungicides are not irradicants and work by coating the foliage to keep the spores from germinating. They, therefore, must be used every 7-14 days on a regular basis to prevent fungus diseases, since new foliage continues to develop throughout the growing season. Your spraying program should begin immediately after the Spring pruning, even though there may be very little foliage, and continue into the Fall until the weather is consistently cold.

Fortunately, there are a number of good fungicides to control Blackspot and most of them control other fungus diseases also. Some of the most effective ones are Funginex,

Banner Maxx, Fore (*Mancozeb and Manzate are the same chemical*), and Daconil. Be careful with Daconil as it will burn your foliage in hot weather.

Never spray in the middle of the day, but in early mornings or late evenings. Funginex and Banner Maxx are systemic, meaning they penetrate the surface of the foliage and will not wash off as easily as contact-type fungicides. Fore and Daconil 2787 are contact fungicides and do not penetrate the leaf surface, but are very effective because they attack the fungus from several different directions.

It is always a good idea to either alternate or use together a systemic and a contact-type fungicide. This helps prevent the buildup of resistance to the particular fungicides that you are using. I prefer using a systemic type and contact type together.

If, in spite of regular spraying with fungicides, you still get a serious attack of Blackspot because of continuous rainy weather, do not get discouraged. Increase the frequency of your spraying--using Fore and Funginex together--to every three days for 3 or 4 times, and you will be able to get the Blackspot under control. After you get it under control, go back to spraying every 7-14 days. If the weather is wet, spray every 7 days. If you are having dry weather, you can stretch it to 14 days. Make sure you water your roses before spraying if there is not plenty of moisture in the ground. This will help prevent spray burn (*phototoxicity*) of your leaves. The leaves would be turgid (internally full of water) before spraying.

If you do not choose to use chemical-based fungicides, then sanitation becomes even more important. There are several non-chemical materials that will give some control. Rose Defense is made from Neem Oil and is fairly effective. A tablespoon of baking soda and a tablespoon of light agricultural oil in a gallon of water sprayed on the foliage will also give you some control.

A new product on the market called Messenger, which is based on a naturally occurring protein called Harpin, is reported to help with fungus diseases in roses by stimulating growth and making healthier, stronger plants that can better resist disease. In addition, choose rose varieties to grow that are naturally more resistant to Blackspot.

In conclusion, you can control Blackspot on roses, but you need to be proactive with a program and not let the Blackspot control you and your roses. Fungicides that are left on the shelf will not be of much help. Make your roses a priority in your life and they will reward you with many beautiful blooms.

Comparison and Identification of Anthracnose, Blackspot and Downy Mildew

	Anthracnose	Blackspot	Downy Mildew
Time of Year	Late spring and summer	Late spring and summer	Spring, early summer, late summer and fall
How Spread	Spores spread by splashing water	Spores spread by splashing water-- leaf surface must be wet to germinate	Spores carried on air currents and by splashing water
Defoliation	Little to none unless severe	Mild--lower half of bush Severe--near total defoliation	Mild--upper third defoliated Severe--entire bush defoliated
Effect on Plant	Weakens plant somewhat	Weakens plant-- fewer flowers and poor flower quality	Bush will most likely die over the winter
Areas First Affected and Progression	Any leaves or canes resulting from previous year's growth	Starts at bottom and moves upward	Starts at the top 1/3 and moves down
Size of Spot	Up to ¼ inch	1/16 to ½ inch	Up to ½ inch
Shape of Spot	Circle (round only)	Circular or more often irregular feathery edges	Irregular spots and blotches, islands of green on yellow leaves
Color of Spot	Dark brown to black, old spots may turn white with a hole	Brown to black	Purplish-red to brown
Type of Plant	Climbers and Ramblers	Any variety susceptible; miniatures, plants with leaves close to the ground	Any type of variety, hit-and-miss

Types of Fungicides and Their Uses

Advisable to alternate systemic and contact fungicides, or even better, to combine a systemic and contact fungicide for each spraying

Locally Systemic Fungicides--Single Site

Funginex (6.5% Triforene), now Rose Pride--Blackspot
Banner Maxx--Blackspot and Powdery Mildew
Compass--Blackspot and Powdery Mildew
Immunox--Blackspot and Powdery Mildew
Cleary's 3336--Blackspot and Powdery Mildew
Benomyl (Benlate)--Blackspot
Systhane (Eagle-Nova)--Powdery Mildew
Rubigon EC--Powdery Mildew
Bayleton--Powdery Mildew

Contact Fungicides--Broad Spectrum, Multi-Site Surface Protectants

Manzate (Fore, Mancozeb, liquid)--Blackspot
Daconil 2787--Blackspot
Daconil Ultrex--Blackspot
Pace (Subdue-ze [Metalaxyl] and Manzate)--Downy Mildew

Insecticides

Diazinon--Rose Midge
Orthene 75% WP--Thrips, Aphids, General Purpose
Mavrik Aquaflow--Cucumber Beetles, General Purpose
Merit--Thrips, Aphids, General Purpose
Malathion--Rose Scale, White Flies, General Purpose
Sevin--Japanese beetles, General Purpose

Miticides or Acaricides

Avid (translaminar)--Spider Mites
Vendex--Spider Mites
Floramite (Ovacide--kills eggs also)--Spider Mites
Safer Soap--Spider Mites

NOTE: Most fungicides and insecticides can be combined. Use miticides separately for best results.