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Black spot of roses

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Typically affected rose leaf with yellowing around black spots. Scorching of the leaf margins is often associated with this disease.

By G. C. MACNISH, B.A., B.Sc. (Agric.), Plant Pathologist

Black Spot of roses can be prevented by combining good sanitary practices with the regular use of preventative fungicides such as maneb and folpet.

ROSES are among the most popular and versatile ornamentals as they may be grown as climbers, bushes or standards.

However, there are several diseases which detract from their beauty, one of the more common being black spot, caused by the fungus Diplocarpon rosae.

This disease first becomes evident on the new growth in the early spring and, if left unchecked, will cause premature defoliation of the plant.

Symptoms

The fungus may attack all the above-ground parts of the plant, but the symptoms are most conspicuous on the leaves. Here the infected areas appear as black rounded spots with a rather indefinite or "feathery" type of margin. The spots vary in size from small dots to areas up to \( \frac{1}{2} \) in. in diameter. In some cases several spots may merge to form large irregular blotches. Although the spots may appear on both surfaces of the leaf they tend to be more abundant on the upper surface.

The tissue around the black spots usually turns yellow and in a heavy infection the whole leaf may yellow and fall prematurely. Defoliated plants are less vigorous than healthy ones and produce inferior and fewer blooms.

The spots on the canes are similar to those on the leaves. Other parts of the plant sometimes show relatively inconspicuous spots.

Spread

The fungus over-winters in spots on the canes and in fallen infected leaves. With the coming of spring the fungus produces
spores which are blown or splashed about by wind and rain. The spores which lodge on rose plants germinate and cause infection if moisture is present for about six hours. More spores are produced in the resulting spots and these spread the disease to healthy tissues.

Control

1. In the early spring the number of spores being spread can be reduced by the following sanitary measures:—
   - All fallen leaves should be cleaned up and burnt.
   - Any badly infected canes should be removed during pruning and destroyed.

2. As the fungal spores need moist conditions for about six hours before they germinate, every effort should be made to prevent the plant from remaining wet for long periods, as in the case of night watering. The disease is usually more prevalent where close planting causes shading and poor ventilation leads to high humidity. Free circulation of air is needed to prevent humid conditions.

3. In addition to these sanitary measures it is also necessary to apply a fungicide to obtain satisfactory control. However, it must be remembered that most fungicides are protective rather than curative chemicals. For this reason fungicides should be applied before the plants have become infected.

A survey of the most recent literature shows that the fungicides MANEB and FOLPET give the best control of black spot of roses. Folpet will also give good
control of powdery mildew, but will sometimes leave a residue on the foliage. Maneb does not give good control of mildew, but in combination with Karathane or wettable sulphur excellent control of both diseases can be achieved.

The following rates of application are recommended:

1. Maneb 1 oz. + Karathane ½ oz. in 3 gal. of water. (Maneb 1½ to 2 lb. + Karathane 4 to 6 oz. in 100 gal.).
2. Maneb 1 oz. + Wettable Sulphur 1 oz. in 3 gal. of water. (Maneb 1½ to 2 lb. + Wettable Sulphur 2 lb. in 100 gal.).
3. Folpet 1 oz. in 3 gal. of water. (Folpet 1½ lb. in 100 gal.).

The fungicides should be applied at weekly intervals from the time of pruning until the warmer weather of December. During summer they should be applied at fortnightly intervals.

To achieve complete coverage of the foliage a spreader should be added. If large areas are being treated ½ pt. of one of the commercial spreaders should be used in 100 gallons of spray solution. Home gardeners could use one of the domestic detergents at the rate of 2 teaspoons for every 3 gallons of solution.

Precaution

Do not apply sulphur, Karathane or folpet during the heat of the day or under heat wave conditions as burning of the foliage may result. Temperatures above 80° F. can cause burning.

Commercial Names of Fungicides

Karathane is sold as "Karathane WP"
Folpet is sold as "Phaltan"
Maneb is sold as "Mantox and Dithane M22"
Wettable Sulphur is sold as "Sulspray," "Cosan," "Kumulus," "Microsulphur," etc.

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