Black Spot – Black spot of rose is a fungal disease caused by *Diplocarpon rosae*. This common rose disease is found worldwide wherever roses are grown. Along with powdery mildew, this is one of the two most important diseases on roses. The disease is most severe in nurseries when overhead irrigation is used and in landscapes when rose leaves are wet by sprinkler irrigation. The disease is unsightly and, overtime, weakens the plants resulting in progressive decline with only a few, if any, flowers produced.

Symptoms – Black spot produces characteristic spots mostly on the upper leaf surface (Fig. 1). The spots are dark purplish-brown to black in color and are mostly circular in shape. The spots may reach up to ½ inch in size and spots can merge together creating larger irregular shaped lesions. The margins of the spots have a characteristic fringed or feathery appearance (Fig. 2) – which is easily seen with a hand lens and is diagnostic for this disease. A yellow halo may appear around spots and, overtime, the leaf may turn yellow (Fig. 3) and prematurely drop from the plant. Severely infected plants may develop similar spots on the canes (Fig. 4). Plants which suffer from repeated defoliation due to black spot go into a progressive decline. Plants weakened by this disease are more susceptible to winter injury or attack by insect pests. The fungus is easy to identify by the characteristic spores produced. These spores consist of two differently shaped cells (Fig. 5).

Disease Cycle – The disease overwinters on infected canes and fallen leaves which were shed from plants infected the previous year. The primary disease cycle begins in the spring when spores, produced in these overwintering lesions, are disseminated to unaffected leaves by rain or sprinkler irrigation. The spores must remain wet for at least 7 hours in order for infection to occur. Symptoms are visible within 72 hours of infection and secondary spread of the disease can occur in as few as 10 days.

Figure 1. Spots on rose leaves caused by *Diplocarpon rosae* (Photo: Jason French, NMSU-PDC).

Figure 2. Close-up of lesions caused by black spot (*Diplocarpon rosae*) – notice the fringed margins on the spots (Photo: Natalie Goldberg, NMSU-PDC).
“Black Spot of Rose”

Conditions for Disease – Moisture is critical for infection and disease development. The optimum temperature for spore germination is 65°F and the optimum temperature for disease development is 75°F. Disease development is inhibited at temperatures above 85°F. The disease can develop throughout the growing season as long as moisture is sufficient for spore germination.

Management – New Mexico’s dry climate naturally limits the disease, however, plants which are wet from overhead or sprinkler irrigation are at risk. As such, avoiding irrigation methods which wet the leaves is critical for disease management in NM. If sprinkler irrigation can’t be avoided, plants should be watered early in the day so that the leaves dry quickly. Other management strategies include:

- Raking and removing fallen leaves (do not compost diseased plant material)
- Prune infected canes
- Plant in sunny locations with good air circulation
- Plant disease tolerant cultivars
- Fungicides are available to help manage the disease, but should not be necessary in NM as long as cultural management strategies with reduce leafwetness and humidity are used. Fungicides, however, may be necessary in nurseries where crowded conditions and irrigation practices may enhance disease.

For more information, contact: Natalie Goldberg, Extension Plant Pathologist (ngoldber@nmsu.edu)