



Arkansas Plant Health Clinic Newsletter

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Rose

Roses have been leafed out in many parts of the state for several weeks. Re-blooming roses should already have been pruned. Knockout roses and other shrub roses should have been cut back by at least 1/3. If the roses have not been pruned, it is not too late, just not as easy to see where to prune with all the foliage on. Once blooming old ramblers should have all old blooming canes removed to the ground immediately after flowering this spring and new summer canes tied into place to bloom next season. Roses need at least 6 hours of direct sun a day, excellent drainage, good soil, a pH of 6.0-6.8, and 2 inches of water per week. Many people run into problems with their Knockout roses because they neglect these principles of good rose husbandry. When roses are sited and cared for properly there are few problems. However, some cultivars are susceptible to certain diseases like Black spot even under optimum conditions. This is a special bulletin to advise of current and upcoming rose problems seen at the Plant Health Clinic.

Rose Rosette

Rose Rosette Virus (RRV) is a serious and incurable disease of roses. This virus is vectored by the the Woolly Rose mite, *Phyllocoptes fructiphilus*. These tiny mites are only 1/4 the size of spider mites. Twenty of them can fit on the head of a pin. They are easily carried by wind to roses in the garden. Symptoms are thickened, succulent stems, ofte with abnormal red color of foliage and stems. An affected shoot may elongate rapidly. Other symptoms are shortened internodes, stems with an abnormal amount of pliable thorns, distorted or dwarfed leaves, deformed buds and flowers, abnormal flower color, reduced winter hardiness, spiral cane growth, and witch's broom. When a rose is diagnosed with this disease, it should be removed from the planting immediately. It is a good idea to try to kill the mites before removing the rose to prevent shaking them off onto nearby roses. Unlike spider mites, many common insecticides kill these tiny mites.

Rose Rosette Virus (RRV)- Emaravirus



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension



Rose Rosette Virus (RRV)- Emaravirus



Photo by Sherrie Smith, University of Arkansas
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Brown Canker

Roses are subject to several kinds of cane cankers. All canes with cankers should be removed as soon as they are discovered.

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Brown Canker of roses, caused by *Cryptosporella umbrina*, starts as small, red to purple spots on the current season's canes. The lesions enlarge into whitish, necrotic areas with purplish reddish margins. Cankers may coalesce into solid tan patches with purple borders. Under moist environmental conditions, the cankers are covered with yellow spore tendrils. All cankered canes should be pruned out as soon as symptoms are observed. Spring pruning should be done above outward facing buds or leaf axils. A systemic fungicide such as Bayer Advanced Disease Control, or Fertilome Liquid Systemic Fungicide II, may be applied afterward.

Rose Brown Canker-*Cryptosporella umbrina*



Photo by Sherrie Smith, University of Arkansas
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Rose Brown Canker-*Crytosporella umbrina*



Photo by Sherrie Smith, University of Arkansas
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Rose Black Spot

Black spot, caused by the fungus *Marssonina rosae* (*Diplocarpon rosae*) is the most important foliar disease of rose (*Rosa* spp.). This disease is found wherever susceptible roses are grown. Wet leaf conditions with temperatures of 15-27°C are most favorable for disease development. The Black spot fungus overwinters on diseased canes and fallen leaves. Rain or wind spread the spores produced by the fungus to newly emerged leaves and stem tissue in the spring. Initial symptoms are the development of black spots of about a half inch diameter on upper surface of leaves. The spots have fringed margins and may coalesce as they age. Black acervuli and white masses of conidia may be visible on the spots. Spots may appear on petioles, stem, sepals, petals, and hips. Raised, purple-red, irregular blotches on immature stems and very small black spots on petioles, sepals, petals, and fruits may appear. Girdling of petioles and stem occur occasionally, killing the plant tissue above the lesions. Infected leaf tissues surrounding the spots turn yellow due to formation of ethylene, resulting in pre-mature abscission of the leaves. On extremely susceptible varieties, one leaf spot is enough to cause the leaf to fall. Tolerant cultivars will have the spots but rarely defoliate, while resistant cultivars remain relatively disease free. Repeated defoliation weakens roses, reduces flowering, and eventually may shorten a rose's lifespan. Black spot can be managed by keeping foliage dry so that the spores cannot get favorable conditions for germination. Some practices such as watering



only during the morning and increasing air circulation can help keep foliage dry. Removal of infected fallen leaves and pruning at the end of season is beneficial. Use of **resistant** varieties is the best way to manage the disease. For susceptible cultivars, frequent sprays of preventative fungicides such as Immunox; or Bayer Advanced Garden –Disease control for Roses, Flowers, Shrubs; or Ortho Rose Pride Rose & Shrub Disease Control; or Bonide Remedy; or Fertilome Liquid Systemic Fungicide, starting from spring as soon as foliage emerges and continuing throughout the summer helps to protect plants from the disease.

Rose Black Spot-*Diplocarpon rosae*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Rose Powdery Mildew

Powdery mildew of roses, caused by *Sphaerotheca pannosa*, is a common and persistent disease of roses. The disease gets its name from the white mycelial patches of the fungus that appear on the upper surface of the leaves. The earliest symptoms are slightly raised, blister like, often red areas on the upper surfaces of leaves. Tender new buds, leaves and stems are the most susceptible. Young leaves may become twisted and distorted. Older leaves aren't usually distorted but may be covered with the white fungal growth. Flower infections result in blooms of poor quality. Ideal conditions for infection are high humidity, and temperatures of 64-77°F. Most roses are susceptible to powdery mildew, with old ramblers and hybrid teas being quite vulnerable. Immunox; Bayer Advanced Garden Disease Control for Roses, Flowers, Shrubs; Ortho Rose Pride Rose & Shrub Disease Control; Bonide Remedy; and Fertilome Liquid Systemic Fungicide are labeled for control.



Rose Powdery Mildew- *Sphaerotheca pannosa*



Photo by Sherrie Smith, University of Arkansas
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Rose Downy Mildew

Downy Mildew, caused by *Peronospora sparsa*, can kill roses when conditions are favorable for disease. Downy mildew is a different disease than Powdery mildew. Downy mildew is favored by wet, cool conditions in the spring and fall. Symptoms may occur on leaves, stems, peduncles, calyxes, and petals. Purplish red to dark brown angular spots develops on leaves. Large areas may be blighted, resembling a chemical burn. Leaflets may turn yellow with green islands of normal tissue. Blackish-purple lesions may appear on stems. Infected twigs may die. Good sanitation is important in

reducing the amount of overwintering inoculum. Infected leaves, stems, and flowers should be removed from the planting and destroyed. Mancozeb and Aliette are effective against Downy Mildew. Commercial growers should rotate Mancozeb with Heritage or Compass. Note that although Knockout roses are extremely resistant to Black spot, they can have problems with Downy Mildew.

Rose Downy Mildew-*Peronospora sparsa*



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension



Rose Downy Mildew-*Peronospora sparsa*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Rose Cercospora

Cercospora leaf spot of roses can be very damaging on susceptible cultivars. *Cercospora puderi* and *Cercospora rosicola* are the species of Cercospora that cause Cercospora leaf spot of rose. Symptoms of Cercospora leaf are tiny brown to purple circular leaf spots on the leaf surface. The centers of the spots gradually turn tan to gray. Heavily infected leaves turn yellow and fall prematurely as in Black spot. It is important to maintain good growing conditions for roses. They should receive at least six hours of direct sun daily (morning is best) in a site that allows good healthy air movement around each

bush. A pH of 6.0-6.8 is ideal for roses. Roses require 2 inches of water a week for best bloom. However, overhead irrigation should be avoided as this promotes fungal diseases such as Cercospora leaf spot and Black spot of roses. Applications of fungicides such as Daconil, Eagle, Heritage, and Compass give excellent control when applied every 7-10 days. Homeowners may use Daconil; Bayer advanced Garden-Disease Control for Roses, Flowers, Shrubs; and Fertilome Liquid Systemic Fungicide, among others.

Rose Cercospora Leaf Spot-*Cercospora rosicola*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Rose Anthracnose

We are also seeing an early season disease of rose called Spot Anthracnose, caused by *Sphaceloma rosarum*. Symptoms are leaf spots up to 0.5 centimeters in diameter, sometimes running together, circular with dark red margins. Newly formed spots are red or purple. Older spots have white centers with a dark-red margin. A shot-hole effect may occur (the spot itself drops out of the leaf leaving a circular hole). Defoliation usually only occurs if the disease is severe. Applications of fungicides such as Daconil, Eagle, Heritage, and Compass give excellent control when applied every 7-10 days. Homeowners may use Daconil; Bayer advanced Garden-Disease Control for Roses, Flowers, Shrubs; and Fertilome Liquid Systemic Fungicide, among others.

Rose Spot Anthracnose- *Sphaceloma rosarum*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Rose Midge

The Rose Midge, *Dasineura rhodophaga* (Diptera: Cecidomyiidae), is an aggravating and damaging pest of roses. Rose Midges are very small members of the fly family, difficult to see without magnification. The female lays her eggs on tender new rose shoots and buds in the spring after emerging from the soil where she over-wintered in the pupal state. The larvae hatch and feed on plant sap, causing the buds to blacken, shrivel, and die. Heavy infestations will cause an otherwise healthy bush to never produce any flowers. The life cycle of the Rose Midge can be as short as every two weeks, making control difficult. Insecticides containing Imidacloprid (Merit) or Cyfluthrin (Tempo) are effective at controlling this pest. A systemic insecticide should be used when roses are beginning to leaf out in the spring. Bio Dual Action Rose and Flower Insect Spray may be applied every 30 days during the growing season.

Rose Midge Damage-*Dasineura rhodophag*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Rose Midge Damage-*Dasineura rhodophag*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Rose Slug

An aggravating pest of roses are the larvae of sawflies, known as Rose Slugs. The European rose slug, the Bristly rose slug, and the Curly rose slug cause similar damage to the foliage of roses. Rose slugs feed on the outer leaf tissue between veins, leaving the clear translucent membranes. These membranes become dry and brown when exposed to sun and air. Some species chew holes, causing skeletonization. Handpicking the larvae as soon as damage is noticed is an effective method of control. Insecticidal soaps and fine oils are effective. Systemic insecticides such as BioAdvanced Garden Rose and Flower Insect Spray may be used, or Thuricide, or Dipel Dust.

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Rose Slug Damage-Family Tenthredinidae



Photo by Kami Marsh, University of Arkansas Cooperative Extension

This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

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