



Arkansas Plant Health Clinic Newsletter

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Rose

by Churamani Khanal

Black Spot, caused by the fungus *Marssonina rosae* (*Diplocarpon rosae*) is the most important foliar disease of rose (*Rosa* spp.). This disease is found all over the world, frequently as an epidemic. Wet leaf conditions with temperatures of 15-27°C are favorable for disease development. Black Spot disease rarely occurs when the temperature is above 30°C. The 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 symptom is 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. Leaf tissues surrounding the spots turn yellow due to formation of ethylene. Later, abscission of leaves takes place. Repeated defoliation makes plants weak and sensitive to stress ultimately affecting flower production and quality. Spots may appear on petioles, stem, sepals, petals and fruits. 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 may occur occasionally which might kill the plant. The disease 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. Frequent sprays of preventative fungicides starting from spring as soon as foliage emerges and continuing throughout the summer helps to protect plants from the disease. Such fungicides include chlorothalonil, myclobutanil, propiconazole, tebuconazole, mancozeb, and copper hydroxide. Dormant season applications of lime sulfur are also helpful.

Rose Black Spot-*Diplocarpon rosae*



Photo by Sherrie Smith, University of Arkansas
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Rose Black Spot-*Diplocarpon rosae*



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Watermelon

Watermelon mosaic virus (WMV; *Potyvirus*; *Potyviridae*) is an aphid-transmitted virus infecting cucurbits and legumes wherever they are grown. WMV has a broad host range which includes both legumes and cucurbits, including watermelon, summer squash, cucumber, and pumpkin. WMV is easily mechanically transmitted as well as being insect transmitted. Over 35 different aphid species, including the green peach, cowpea, spirea, and potato aphids, have been known to vector WMV.

Symptoms on leaves may include rugosity, mottling, and deformity, or leaves may have no symptoms depending on the time of the year. However, various forms of fruit malformation (mottling, mosaic, skin bumps, distorted shape, etc.) may be seen even if the leaves look normal. Viruses are not curable. There is no treatment for infected plants. Cultural control measures prior to infection include removal of plant debris, alternative hosts, and volunteer seedlings combined with using virus-tested plants. The very best defense is the use of resistant cultivars. Sanitation of tools used in the field and removal of infected plants can help limit the spread in the field. WMV is not seed transmitted in any of the identified hosts.

Squash Watermelon Mosaic Virus (WMV)-*Potyvirus*



Photo by Sherrie Smith, University of Arkansas
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Squash Watermelon Mosaic Virus (WMV)-*Potyvirus*



Photo by Sherrie Smith, University of Arkansas
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Holly

During cool, wet weather in plantings with saturated soils and poor air circulation, *Phytophthora* leaf, twig blight, and root rot may occur. The pathogen causing leaf and twig blight is *Phytophthora ilicis*. Several other *Phytophthora* spp., including *Phytophthora cinnamomi*, cause root rots. *P. ilicis* can cause almost complete defoliation and severe twig death, particularly on limbs closest to the ground. Pruning wounds, wind damage, insect damage, and damage from holly leaf spines can all provide entry points for infection. Symptoms on leaves are purple-black lesions which typically begin on the margins in the fall. Symptoms begin on the lower parts of the holly and progress up the plant during the winter. Twig dieback occurs first followed by cankers on larger branches and stems. Infections are common at berry clusters, often girdling the twig. When *Phytophthora* root rot occurs, general yellowing of the entire holly usually ensues, followed by browning and death. Cultural controls are important in control of *Phytophthora* infections. Plants need good air circulation and excellent drainage. Fallen leaves and dead twigs, berries, and branches should be removed and destroyed. Overhead irrigation and over watering should be avoided. Fungicides with efficacy against *Phytophthora* are Aliette WDG, Fosphite, Heritage, Mancozeb, and Subdue Maxx.



Holly Phytophthora Blight- *Phytophthora ilicis*



Photo by Sherrie Smith, University of Arkansas
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Holly Phytophthora Blight- *Phytophthora ilicis*



Photo by Sherrie Smith, University of Arkansas
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Holly Root Rot-*Phytophthora* spp.



Photo by Sherrie Smith, University of Arkansas
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Holly Root Rot-*Phytophthora* spp.



**Photo by Sherrie Smith, University of Arkansas
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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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