



Arkansas Plant Health Clinic Newsletter

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Blackberry

Cane and Leaf Rust

The Plant Health Clinic has been seeing some blackberries with rust. There are several types of rust found on blackberries, some minor and some serious. Cane and Leaf Rust, caused by the fungus *Kuehneola uredinis*, can cause defoliation and some fruit reduction in severe cases, but is not a systemic rust. It's usually only a minor problem. Symptoms are first seen in the spring on new floricanes. Large yellow uredia split the bark on infected canes, followed by small yellow uredia on undersides of leaves. Infected canes should be removed, and protective fungicides applied. Nova, Pristine, and Cabrio are effective. Several other blackberry rusts cause leaf, petiole, and stem symptoms. The same controls should be used as are used for Cane and Leaf Rust.

Blackberry Cane and Leaf Rust- *Kuehneola uredinis*



Photo by Sherrie Smith, University of Arkansas
Cooperative Extension

Blackberry Cane and Leaf Rust- *Kuehneola uredinis*



Photo by Sherrie Smith, University of Arkansas
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Orange Rust

Orange Rust, caused by the fungus *Gymnoconia nitens*, is the most serious rust disease of blackberries. It is systemic rust that can cause significant yield reduction. Symptoms appear as soon as new growth comes on in the spring. Young shoots are spindly and clustered with misshapen, chlorotic, stunted leaves. Approximately 3 weeks later the leaves become covered with bright orange colored rust pustules. Once infected, the plant is infected for life. Canes produced after infections don't produce fruit. Rogueing infected plants from within the planting and destroying nearby wild blackberries are the most effective methods of control.

Good weed control and good air circulation also help reduce the number of new infections. Fungicides don't give adequate disease control but may reduce the number of new infections. Nova, Cabrio, and Pristine should be applied in the spring when the bright orange aeciospores are being produced and again in the fall as temperatures start to drop and teliospore infection becomes a threat.

Blackberry Orange Rust- *Gymnoconia nitens*



Photo from APS Library, M.A. Ellis

Blackberry Orange Rust- *Gymnoconia nitens*



Photo by Mitch Crow, University of Arkansas Cooperative Extension



Sherrie Smith
Ricky Corder

Blackberry Anthracnose

Anthracnose, caused by *Elsinoe veneta*, can occur on leaves, petioles, pedicels, flower buds, fruit, and canes. On canes, reddish-purple circular to elliptical spots occur on primocanes in the spring. As the spots age, they enlarge and the centers become sunken, turning buff or ash gray, with purple margins. The lesions may merge, forming irregular blotches that girdle the cane. The cane may crack and die at that spot. Tip dieback may occur. The first signs of infection on the leaves are minute purple spots which later develop white centers. The center of the holes may later drop out, giving a shot hole appearance. Infected fruit are small, pitted, and slow to ripen. Control measures include the avoidance of excessive rates of nitrogen, and overhead irrigation. It is recommended that plants should be kept in narrow rows (40-60 cm or 16-24" wide) and thinned to allow for better air circulation. Weed control should be a priority as weeds reduce air movement in the planting. All pruned canes should be removed from the planting and destroyed, as the fungus overwinters on both dead and live tissue. Liquid lime sulfur applied when the plants are breaking dormancy to when there is no more than 15 mm (19/32") of green tissue showing. Additional fungicides are recommended when canes are 15-20 cm (6-8") tall and at 14-day intervals thereafter. Captan, Pristine, and Switch are labeled for anthracnose on blackberry.

Blackberry Anthracnose-*Elsinoe veneta*



Photo by Sherri Sanders, University of Arkansas Cooperative Extension

Blackberry Anthracnose-*Elsinoe veneta*

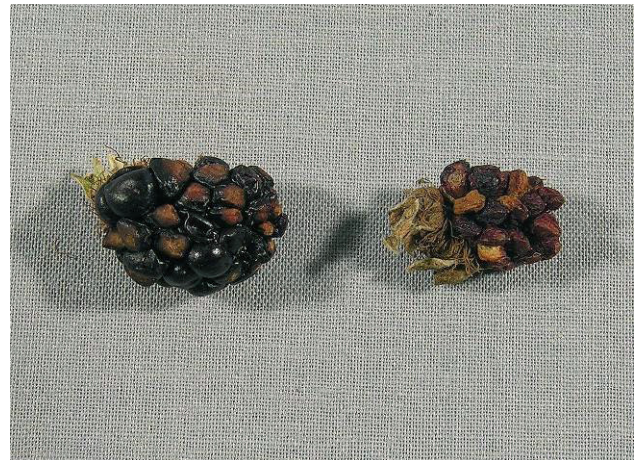


Photo by Sherrie Smith, University of Arkansas Cooperative Extension



Sherrie Smith
Ricky Corder

Boxwood

Black root rot, caused by the fungus *Thielaviopsis basicola* has a wide host range, attacking begonia, boxwood, northern catalpa, cotton, cowpea, cyclamen, eggplant, elm, fuchsia, geranium, gloxinia, blue holly, Japanese holly, inkberry, lilac, oxalis, pansy, sweet pea, peanut, petunia, poinsettia, soybean, tobacco, tomato, verbena, annual vinca, and viola, among others. Aboveground symptoms include yellowing, stunting, and wilting. When roots are closely examined under magnification, small brownish-black lesions may be observed on feeder roots. Black root rot is closely associated with stressful growing conditions. Adverse temperatures, excessive amounts of nitrogen, too high or low a pH, and drought stress are some of the factors associated with Black Root Rot. Maintaining a soil pH below 5.6 has been shown to decrease severity of symptoms. Sanitation is vitally important. Growers should never reuse liners or pots without steam sterilization. Plant debris and weeds should not be allowed to accumulate. Plugs should be planted immediately to reduce stress. Plants with obvious symptoms should be pulled up and destroyed. Fungicides containing the active ingredient thiophanate-methyl may be used as a soil drench on plants not too far gone.

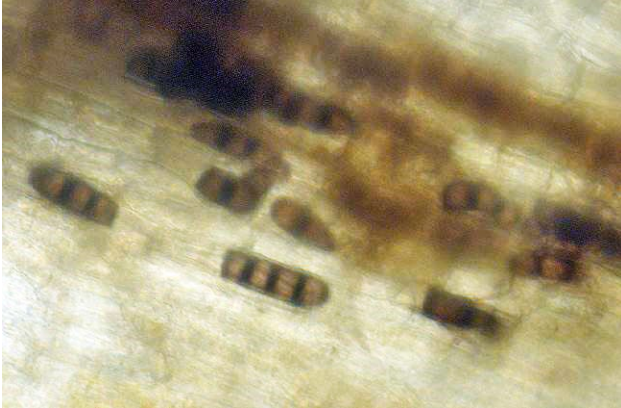
Boxwood Black Root Rot- *Thielaviopsis basicola*



Photo by Sherrie Smith, University of Arkansas
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Boxwood Black Root Rot **aleuriospores-*Thielaviopsis basicola***



**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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