



## Arkansas Plant Health Clinic Newsletter

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### Azalea

We are approaching the time of year that the Clinic receives samples of azalea leaves with thickened, fleshy, distorted areas. This disease is known as Azalea Leaf gall, caused by *Exobasidium vaccinii*. Azalea Leaf gall affects new growth only, especially during cool, wet springs. Initially the galls are pink to white, but eventually become brown with age. Only new leaves are susceptible. Older leaves do not become infected. Azalea Leaf gall is an unattractive nuisance but does not kill the plant. Blueberries and camellias are also susceptible to leaf galls caused by *Exobasidium vaccinii*. Good sanitation practices are usually enough to control Azalea Leaf Gall. Leaves with galls should be removed from the planting as soon as they appear. For badly infected plantings, start chemical control on azaleas with a history of Leaf gall at the first sign of new growth in the spring. Products containing mancozeb, or triadimefon, or myclobutanil, or chlorothalonil may be applied at bud break and at 10–14-day intervals until new leaves harden. Homeowners may use Fertilome Broad Spectrum Lawn and Garden Fungicide, (chlorothalonil), or Hi-Yield Vegetable, Flower, Fruit, and Ornamental Fungicide,(chlorothalonil) or Ortho Maxx

Garden Disease Control, (chlorothalonil), or Ortho Disease B Gon Garden Fungicide, (chlorothalonil), or Garden Tech Daconil Fungicide,(chlorothalonil), or Bonide Fung-onil Multipurpose Fungicide, (chlorothalonil), or Spectracide Immunox Plus, (myclobutanil & permethrin), or Bonide Rose Rx Systemic Drench, (tebuconazole), or Bayer Advanced Garden-Disease Control for Roses, Flowers, Shrubs, (tebuconazole), or Bayer Advanced Garden-All in-One Fungicide/Insecticide/Fertilizer, (tebuconazole & imidacloprid), or Fertilome 2-N-1 Systemic Fungicide,(tebuconazole & imidacloprid),or Bonide Infuse Systemic for Turf and Ornamentals, (thiophanate-methyl), or Ortho Rose and Flower Insect and Disease Control, (triticonazole & acetamiprid).

### Azalea Leaf gall-*Exobasidium vaccinii*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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## Azalea Leaf gall-*Exobasidium vacinii*



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## Azalea Leaf gall-*Exobasidium vacinii*



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## Juniper

Although it is too early in the season to see these rusts on fruit and ornamentals, the fruiting bodies of the fungi are evident and sporulating on Juniper hosts. Cedar-quince rust, (*Gymnosporangium clavipes*) and Cedar-apple rust, (*Gymnosporangium juniperi-virginianae*) are two of the most common rusts we see at the Plant Health Clinic. Both rusts have a similar life cycle. In the spring the Cedar-quince rust fungus produces perennial, spindle shaped galls on cedars or junipers. These galls produce masses of gelatinous orange, brown teliospores. Cedar-apple rust galls are large gelatinous balls. In both types of rust, teliospores produce basidiospores which are carried to members of the rose family, such as pear, quince, apple, crabapple, and hawthorn. Both fungi stop producing the basidiospores about 30 days after the apples stop blooming. Galls on both cedar and the alternate host can cause stems to die if they are completely encircled. Cedar-quince rust is more likely to attack the fruit and stems than the leaves of the alternate hosts, whereas Cedar-apple rust commonly attacks leaves, often leading to defoliation. Aeciospores develop in the fruit, leaf, and stem lesions and are blown to cedars where the cycle begins again. Each year the perennial rust galls of Cedar-quince rust become larger and more noticeable, with older galls becoming deep brown to black in color. Fruit from the alternate host infected with Quince rust are covered with protruding off-white aecia of the fungus. Infected fruit eventually dry out and drop from the plant. Control begins with good sanitation. Prune out





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any galls found on alternate hosts junipers and cedars. During the winter, prune out all quince galls remaining on branches, and twigs of apples, crabapples, quince, hawthorn, and pears. Preventive fungicide applications are necessary in locations where apple and quince rusts are problems. Fungicide timing is similar for all the cedar rusts. Make the first application to valuable orchard and landscape plants when the orange telial galls on junipers become noticeable, (usually at flower bloom on apples and hawthorns) and make additional applications at regular intervals to protect newly developing growth. Applications of a triazole fungicide such as propiconazole, (Banner Maxx), myclobutanil, (Immunox), or triadimefon, (Bayleton, Strike), or Fertlome Liquid Systemic, or Bio Advanced Garden Disease Control for Roses, Flowers, Shrubs are labeled for control of rusts on ornamentals. Begin applications shortly after bloom. Captan is labeled for fruit trees for homeowners.

### **Cedar-Quince Rust on Pear-** *Gymnosporangium clavipes*



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

### **Cedar-Quince Rust on Juniper-** *Gymnosporangium clavipes*



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## Cedar-Apple Rust on Juniper- *Gymnosporangium juniperi-virginianae*



Photo by Sherrie Smith, University of Arkansas  
Cooperative Extension

## Cedar-Apple Rust on Apple- *Gymnosporangium juniperi-virginianae*



Photo by Sherrie Smith, University of Arkansas  
Cooperative Extension

## Wisteria

Wisteria are extremely tough vines; so much so that they have become invasive in certain woodlands. Nevertheless, they are popular for their toughness and amazing beauty in bloom. They are tolerant of a wide range of growing conditions, but do best in full sun in fertile, moist but well-drained soil. Wisteria has few disease problems. However, we occasionally receive a sample with leaf spot caused by *Cercospora* spp., or dieback caused by *Botryosphaeria* spp. In the case of leaf spot, clean up all fallen leaves and avoid overhead irrigation. Although not usually requiring fungicides, homeowners may use Fertilome Broad Spectrum Lawn and Garden Fungicide, (chlorothalonil), or Hi-Yield Vegetable, Flower, Fruit, and Ornamental Fungicide, (chlorothalonil) or Ortho Maxx Garden Disease Control, (chlorothalonil), or Ortho Disease B Gon Garden Fungicide, (chlorothalonil), or Garden Tech Daconil Fungicide, (chlorothalonil), or Bonide Fung-onil Multipurpose Fungicide, (chlorothalonil), or Spectracide Immunox Plus, (myclobutanil & permethrin), or Bonide Rose Rx Systemic Drench, (tebuconazole), or Bio Advanced Garden-Disease Control for Roses, Flowers, Shrubs, (tebuconazole), or Bio Advanced Garden-All-in-One Fungicide/Insecticide/Fertilizer, (tebuconazole & imidacloprid), or Fertilome 2-N-1 Systemic Fungicide, (tebuconazole & imidacloprid), or Bonide Infuse Systemic for Turf and Ornamentals, (thiophanate-methyl), or Ortho Rose and Flower Insect and Disease Control, (triticonazole & acetamiprid).





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**Keiddy Urrea**

These chemicals are usually ineffective against canker diseases. Symptoms are wilting of sections of the vine. When examined with a hand lens, you may see black pimple-like fruiting bodies of the fungus. The only remedy is to cut out diseased sections and discard from the planting.

### **WISTERIA** by Keiddy Urrea

Glicinas o Glicinias son plantas muy fuertes que hasta se han convertido en plantas invasoras en algunos bosques. Estas plantas son muy populares por ser muy fuertes y por las lindas flores que produce en la primavera. Son resistentes a diferentes condiciones de crecimiento pero prefieren buena luminosidad durante todo el día y suelos húmedos con buen drenaje. La principales enfermedades que atacan las plantas de Glicinas en Arkansas son: Manchas de las hojas, que es una enfermedad causada por el hongo *Cercospora* spp., y el cancro causada por el hongo *Botryosphaeria* spp. Para el control de la enfermedad de las manchas en las hojas se recomienda: 1) evitar el uso de aspersores para el riego, 2) limpiar y coleccionar las partes afectadas de la planta., 3) el uso de fungicidas no es siempre necesario se pueden aplicar productos como: Fertilome Broad Spectrum Lawn and Garden Fungicide, (chlorothalonil), o Hi-Yield Vegetable, Flower, Fruit, and Ornamental Fungicide, (chlorothalonil) o Ortho Maxx Garden Disease Control, (chlorothalonil), o Ortho Disease B Gon Garden Fungicide, (chlorothalonil), o Garden Tech Daconil Fungicide, (chlorothalonil), o Bonide Fung-onil Multipurpose Fungicide, (chlorothalonil), or Spectracide Immunox Plus,

(myclobutanil & permethrin), o Bonide Rose Rx Systemic Drench, (tebuconazole), o Bio Advanced Garden-Disease Control for Roses, Flowers, Shrubs, (tebuconazole), o BioAdvanced Garden-All-in-One Fungicide/Insecticide/Fertilizer, (tebuconazole & imidacloprid), or Fertilome 2-N-1 Systemic Fungicide, (tebuconazole & imidacloprid), or Bonide Infuse Systemic for Turf and Ornamentals, (thiophanate-methyl), o Ortho Rose and Flower Insect and Disease Control, (triticonazole & acetamiprid). Los síntomas del cancro son marchitamiento en secciones de la vid, para confirmar la presencia del hongo se recomienda usar una lupa y revisar cuidadosamente los tallos, el hongo produce pequeños puntos negros llamados "picnidios" los cuales contienen las esporas. Para el manejo de cancro no se recomienda el uso de fungicidas por su poca efectividad, lo más recomendado es podar la parte muerta de la planta.

### **Wisteria Cercospora Leaf Spot- *Cercospora* sp.**



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

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## **Wisteria Botryosphaeria Canker- *Botryosphaeria* sp.**



**Photo by Sherrie Smith, 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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