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## **Cucumber Mosaic Virus (CMV): A Growing Problem for American Beautyberry (*Callicarpa americana*)**

### **Introduction**

Plant diseases are caused by bacteria, fungi, or viruses. Those caused by viruses are the most difficult to diagnose. Symptoms are often quite subtle, and easily confused with nutrient deficiencies and herbicide injuries. Viral plant diseases are most often transmitted by insect vectors or by infected pruning tools. Once infected, a plant cannot be cured of diseases caused by viruses.

### **Results of Plant Analysis**

In November 2011, [American beautyberries](#) (*Callicarpa americana*) exhibiting leaf distortion, mottling, and slowed growth were reported to Lee County Extension. Leaf samples were collected from the affected plants and sent to the Plant Disease Clinic at the University of Florida, Gainesville. The sample tested positive for cucumber mosaic virus (CMV) with the Agdia ImmunoStrip Kit (ISK 44501). Aphids were also found on the affected plants. Since the initial analysis, plant samples suspected of having CMV have been collected in Lee County from Cape Coral, Fort Myers, Sanibel and Estero.

### **Cucumber Mosaic Virus**

Cucumber mosaic virus has a wide host range including row crops, vegetables, fruits and herbaceous ornamentals. The aphid-transmitted virus infects plants in hundreds of plant families on nearly every continent. The virus can also be spread by seed in some hosts and by mechanical transmission. The latter includes propagation, pruning tools, and plants rubbing on other plants. Symptoms are most pronounced if the plants are infected at an early growth stage, and can include stunting, deformation, and even plant death in some hosts.

### **CMV Symptoms and Transmission in American Beautyberry**

The disease is slow to progress in American beautyberry. It can persist in affected plants for several years and infected plants will continue to flower and fruit. Disease symptoms are present throughout the year. Symptoms include mottling of leaves, leaf distortion, partial defoliation, stunted growth and stem dieback. Plants with defoliated stem tips will likely produce new leaves that will eventually show symptoms of CMV infection. We have observed seedlings with CMV symptoms suggesting seed transmission.

The disease is transmitted to American beautyberry by insects known as aphids. Aphids already infested with CMV feed on newly forming plant leaves. They pierce the leaves with their stylet and suck the sap from the host plant. The process deposits CMV in American beautyberry and other susceptible plants.

### **Disease Management**

Prevention is key when dealing with any virus pathogens. Purchase virus-free seed and healthy transplants from reputable growers. Maintain an effective aphid management program in gardens and landscapes. Remove and destroy plants that have the virus. When pruning American beautyberries, [disinfect tools](#) before moving from one plant to the next even if the plants show no symptoms of the disease.



Leaf mottling, late December



Leaf mottling and wilting, late June

Tom Becker



Defoliated stem tip with emerging new growth, mid July



Leaf mottling, Mid July

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This fact sheet was reviewed by Dr. Philip Harmon, UF Plant Pathology Department; Peggy Cruz and Karen Headlee, Lee County Extension; Barbara Meyer, Lee County Master Gardener

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