

More Information Relating to the First Report of Beech Leaf Disease in Virginia

20 August 2021

On June 13, 2021 symptomatic leaves were observed and collected by a USDA employee from an American beech (*Fagus grandifolia*) in Prince William County, Virginia. The disease was later confirmed to be Beech Leaf Disease.

Beech Leaf Disease is caused by an invasive foliar nematode, *Litylenchus crenatae* subsp. *mccannii*. Beech Leaf Disease causes decline and mortality of native American beech, which serve an important ecological role and food source to wildlife, in Virginia forests. Other beech, such as European, Oriental and Chinese are also susceptible to this disease.

In 2012 decline and mortality of American beech saplings was first observed in northeastern Ohio, but at the time the causal agent was not determined. The decline quickly spread in 4 years from 20 acres to over 6,000 acres in northern Ohio. The disease was subsequently identified in Pennsylvania, New York, Connecticut, Massachusetts, New Jersey, Rhode Island, and Ontario, Canada.

The most characteristic symptom of Beech Leaf Disease is dark interveinal banding and thickening of leaf tissue as leaves emerge in the spring. Leaf symptoms are unevenly distributed on individual branches and in a tree. As the disease progresses, buds die, branches dieback, the tree declines and eventually dies. The rate of decline is faster for saplings (~3 years) compared to mature trees (~7 years).



“Banding” symptoms are best observed when leaf tissue is backlit (left photo). Leaves may also curl. (Photos courtesy of Devin Bily, State Plant Pathologist, VDACS)

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Natural spread of the nematode and disease have not been fully characterized. Infected beech nursery stock has been found and intercepted, so there is potential for this disease to move through infected beech nursery stock.

The best way to observe the symptoms of darkened, thickened interveinal leaf tissue is to look up into the canopy of a tree so that the leaves are naturally backlit. Otherwise, hold suspect leaf tissue up to light to backlight the tissue.

For more information see the USDA-Forest Service fact sheet on Beech Leaf Disease <http://www.dontmovefirewood.org/wp-content/uploads/2019/02/Beech-Leaf-Disease-Pest-Alert.pdf> .

Laboratory diagnosis of suspect trees is necessary since other problems (e.g. beech aphid) may be mistaken for Beech Leaf Disease. Your [local VCE office](#) can assist in helping Virginians obtain accurate disease diagnosis.