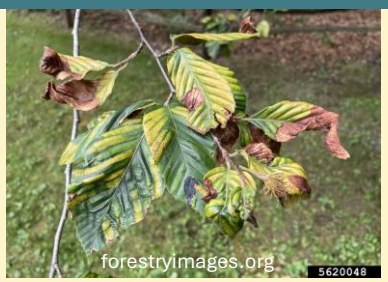
Beech Leaf Disease



What Do We Know?

Beech leaf disease (BLD) is an emergent disease affecting beech trees (Fagus spp.). The disease is relatively new and difficult to study so details are still being discovered. BLD is caused by a subspecies of nematode from Japan (*Litylenchus crenatae mccanii*). The disease was first encountered in northeast Ohio in 2012 and as of 2025 is found from Maryland and northern Delaware north to Maine and west to eastern Michigan and parts of Canada.

The most indicative symptom is dark bands of tissue between the veins of the leaf. The interveinal banding is best seen when an infected leaf is held up to light. Over a growing season infected leaves will toughen and curl. From a distance BLD can look like a drought that is only impacting beech trees.

In spring the nematodes in the bud cause cells to enlarge which negatively impacts proper growth. The nematodes will spread through the leaves reaching their highest population in late summer and early fall and then will parasitize newly developed buds to overwinter. Asymptomatic leaves and buds can still contain small populations of nematodes. It is unknown how the disease spreads between trees, but theories include being spread through rain and wind, infected wood or nursery plants, and the digestive tracts of insects and birds. Mortality is still being studied, but initial reports indicate death 2-7 years after symptoms are present. Younger trees seem to die more frequently and faster than older trees. Some trees seem to be able to resist mortality or the disease all together.

The disease can be managed through pruning to increase light and air flow to the interior of the tree. This will create dryer conditions where the nematode will be less successful. Basic care of the tree such as watering, mulching, and fertilization can also help with disease management. There has been initial success treating BLD with anti-parasitic compounds and potassium fertilizers. Because of the cost and effort, these treatments should be reserved high value trees. There is currently no option for controlling BLD at large scales. Landowners and managers may choose to avoid planting beech trees for the time being.

Quick Facts

- Nematode first observed in North America in Ohio in 2012
- Most obvious symptom is dark bands between leaf veins
- Leaves curl and thicken as disease progresses
- Can cause tree mortality within 2-7 years
- Disease management includes basic care and some chemical options
- People may choose to not to plant beech trees currently

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