



Treatment of Beech Trees with Beech Leaf Disease in Maine

Background: Beech leaf disease (BLD) was first described in Ohio in 2012. Since then, it has spread to the north and east, impacting beech trees wherever it is found. Beech leaf disease was detected in Maine in 2021 in Lincolnville, Waldo County. Since then, the severity of the disease in known locations has increased markedly, and the geographic distribution of the disease has expanded well outside of the area of the original detection. BLD impacts all species and cultivars of beech and all ages of beech trees. Due to the relatively short time BLD has impacted trees in North America, much about the disease is still unknown, and BLD management and treatments are still under development. Recently, new information has been shared on BLD treatment to assist land managers and homeowners in protecting high-value beech trees.

Research and Trials: Researchers in Ohio have been conducting BLD treatment trials since 2017. Some encouraging preliminary results have been noted through these trials involving several products and modes of application. The most effective BLD treatment to date includes soil application of Phosphite products, which are essentially high-potassium fertilizers. Several Phosphite products are available on the market and available to the public, including Agrifos, Prophyt and Polyphosphite 30. These products are not restricted use substances, like many pesticides, and can be used by homeowners. The product used in the Ohio trials was PolyPhosphite 30. In the trials, small trees (<4-inch-diameter trees) were treated with PolyPhosphite 30 twice a year for five years. Treatment resulted in improved tree health and canopy characteristics. Review the label and Safety Data Sheet for more information on product use and safety precautions.



Images: (left) Leaf banding symptoms in a tree with a trace BLD infection; (middle) Heavy banding of a majority of leaves representing severe symptoms; (Right) A tree with moderate symptoms the prior year showing severe leaf loss due to BLD.

Treatment Method:

** These are still considered preliminary findings. The level of success may vary considerably. Trees with lower severity of infection are thought to respond better to treatment with Phosphite products. Data on treatment of mature trees is not yet available.**

Treatments should be made twice during the growing season for at least five years. The first treatment should be made in spring (in June) and the second one month later (in July). PolyPhosphite 30 can be applied to beech trees as a soil drench or injected into the soil with specialized soil injection equipment. The amount of product used depends on the tree's diameter at breast height (DBH), a standard tree measurement taken at 4.5 feet above the ground.

For every inch of DBH, 2 oz of PolyPhosphite 30 must be diluted in 14 oz of water. This final solution is then applied to the root zone of trees. For example, to treat a beech tree that is 10 inches in DBH (31.4 inches in circumference), you must mix 20 oz of PolyPhosphite 30 with 140 oz of water. This treatment should be repeated one month after the first treatment time.

To apply as a soil drench, remove any debris, leaf litter, etc., around the tree's base and pour the mixture slowly to allow for good absorption. Where runoff is likely to occur due to soil conditions or slope, you can dig a shallow trench around the base of the tree and pour the solution into the trench for more even absorption. Be careful not to injure the roots or base of the tree when digging the trench.



Image: A young beech tree prepared for treatment. Debris has been pulled away from the base the tree to enhance soil absorption and root uptake. The treatment can also be performed using soil injection, requiring specialized equipment.



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