

Hosta Virus X

EP-132



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Hosta Virus X (HVX) was first described in 1996 at the University of Minnesota. Now a common virus on hosta, it is a concern to nurseries, garden centers, and home gardeners. HVX infects different hosta cultivars and can lead to complete death of leaves. There is no cure for HVX.

Symptoms

Symptoms vary by cultivar and time of infection. Some hosta cultivars have natural coloring or striping, so it is important to know what is “normal” for a given cultivar.

The most dramatic and diagnostic symptoms include line patterns (especially along veins), mosaic patterns, blotches, puckering, twisting, or ringspots. However, certain cultivars may only express small necrotic (brown/dead) spots. And, some plants may be infected but display no symptoms. This can occur if the plant was infected recently — it can take a year or more for symptoms to develop. Additionally, certain cultivars simply do not express symptoms well. These “symptomless carriers” add to the challenge of preventing spread of this disease.

Spread

HVX is mechanically transmitted. It can be spread on hands, pruning tools, and by propagation (divisions). It is a good practice to sterilize tools between plants when pruning or dividing. Accidentally hitting hostas with a lawn mower or weed whacker might also spread the virus. There is no evidence that HVX is spread by insects.

Management and Testing

Live-plant dealers in Kansas that sell hostas should educate employees about this disease. Since there is no cure for HVX, the best management strategy is to prevent its spread. Plants that are suspected to have HVX should not be sold.

The diagnostic lab at Kansas State University can test for HVX. Be aware that this particular test can only detect HVX. For additional cost, the lab can

test for several additional viruses that are less common. If there is a positive result, contact the Kansas Department of Agriculture to follow up on the situation. (Contact regional inspector, or KDA plant pathologist Jon Appel at jappel@kda.state.ks.us.) KDA will contact the original source of the plant material (the wholesaler, for example) and will coordinate with the regulatory agency of the source state, if it is outside Kansas.

Home gardeners should also be aware of HVX and avoid purchasing symptomatic plants. If any hosta plants look suspicious, there is a chance that nearby healthy-looking plants are infected but not yet showing symptoms — especially plants of the same cultivar or from the same source. In a home planting, if a plant becomes symptomatic it can be submitted to Kansas State University for testing. Due to the cost, the homeowner may prefer simply to remove and destroy the suspicious plants. Dig them up and throw them away or burn them. The virus is not known to survive in the soil, so when the roots have decomposed, it should be safe to replant hostas in the site.



Figure 1. Puckering and distortion on leaves of hosta infected with HVX.

To submit samples to K-State:

Please send an entire plant if possible (the plant plus pot, or plant plus root-ball) but a few symptomatic leaves are sufficient. Place the plant in a plastic bag. Do **not** add wet paper towels or wet newspaper. Take the sample to your local K-State Research and Extension office for assistance with shipping to the Plant Diagnostic Laboratory, or package in a crush-proof container and send directly to:

Plant Diagnostic Laboratory
Extension Plant Pathology
4032 Throckmorton Hall
Kansas State University
Manhattan, KS 66506-5504

Hosta Cultivars

HVX has been detected in the following cultivars: (other cultivars are also susceptible)

Birchwood Parky's Gold	Lunacy
Blue Cadet	Montana Chirifu
Color Glory	Moonlight Sport
Diamond Tiara	Opipara
El Nino	Pacific Blue Edger
Fan Dance	Paradise Joyce
Gold Edger	Queen Josephine
Gold Standard	Regal Splendor
Golden Prayers	Richland Gold
Golden Tiara	Rim Rock
Goldrush	Royal Standard
Harvest Glow	Stiletto
Hydon Sunset	Striptease
Janet	Sun Power
Kara	Sum & Substance
Krossa Regal	Undulata Albomarginata
Little Aurora	Wide Brim
Louisa	Yellow Splash Rim

Before this virus was widely known, some infected plants were thought to be new varieties of hosta and were given names. **All** plants with the following cultivar names are thought to be infected: Breakdance, Eternal Father, Kiwi Watercolours, Leopard Frog, Lunacy, Parkish Gold.

References:

Currier S., and Lockhart, B.E.L. 1996. Characterization of a Potexvirus infecting *Hosta* spp. *Plant Disease* 80: 1040-1043.

HIS Nursery Inspectors Guide

Photos courtesy of Jon Appel and Bill Hilbert, Kansas Department of Agriculture, and Megan Kennelly, Kansas State University

More examples of symptoms are available at the following Web site: www.hostalibrary.org/firstlook/HVXpics1.htm



Figure 2A. Color blotches on leaves of hosta infected with HVX.



Figure 2B. Color blotches on leaves of hosta infected with HVX.

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