

## Hosta Virus X

### Introduction

Hosta Virus X (HVX) is a virus that only infects hosta that is mechanically transmitted. University of Minnesota plant pathologists first discovered HVX in 1996 in Minnesota, Indiana, Iowa and Michigan. It was first reported in Connecticut in 2005. It is not spread by insects or nematodes but only mechanically by the spread of infected sap.

### Symptoms

Symptoms of HVX vary depending upon the specific cultivar infected. They may include stunting, leaf twisting and puckering, ringspots, and browning (necrosis). Mosaic (patterns of light and dark green), mottling and changes in coloring along the veins may also be seen. Symptoms may also remain latent for months or even years.



Figure 1: HVX. Dark green veins and mottling on Sum and Substance (first two photos on left) and leaf mottling on August Moon (far right) Photos by J. Allen.



Figure 2: HVX: Browning or necrosis on Royal Standard (left) and mottling on Blue Cadet (right) Photos by L. Pundt

For more photos online see [Alan Windham's Images](#)

Hosta can be infected by other viruses including tobacco rattle virus (TRV), arabis mosaic virus (ArMV), tobacco ringspot virus (TRSV) and tomato ringspot virus (ToRSV), all of which are vectored by root-feeding plant parasitic nematodes. Hosta can also be infected with tospoviruses, tomato spotted wilt virus (TSWV) and impatiens necrotic spot virus (INSV) vectored by thrips.

### **Causal Agent and Life History**

HVX can be transmitted mechanically in sap on tools, clothing, and by vegetative propagation. It is host specific and only infects hosta. It is primarily spread thru the propagation of infected plants.

Do not rely on a visual diagnosis by submit samples to a plant diagnostic laboratory or purchase immunostrip tests specific for HVX from [agdia](#).

### **Management**

- Purchase clean, virus-free plugs from a reputable supplier. If unsure, isolate incoming plants in quarantine type area until you have determined that they are virus-free
- There is no cure for virus-infected plants
- Infected plants should be destroyed by burning or burying (not composting)
- Plants can be infected without showing symptoms so plants immediately adjacent to infected plants should be destroyed
- Avoid handling healthy hosta after handling diseased plants
- HVX is spread mechanically in the sap that contaminates worker's hands or cutting tools. To remove contamination of most viruses from tools, they can be soaked in commercially available disinfectants such as quaternary ammonium compounds or hydrogen dioxide. Soak the tools for at least one minute. Propagators need to soak their cutting tools on a regular basis, after use on each stock plant or specific cultivars or defined area
- Do not reuse contaminated pots without proper cleaning and disinfection

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### **References**

Abbot, B. (Ed). 2005. [Hosta Diseases and Pests. Sustainable Urban Landscapes. Iowa State University.](#) 16 pp.

Baker, C., A. 2013. [Hosta Virus X, a Potevirus.](#) Plant Pathology Circular 410. Florida Department of Agriculture & Consumer Services. 3 pp.

Gleason, M.L. Daugherty, M.L, Chase, A.R. Moorman, G.W. and D. S. Mueller. 2009. Diseases of Herbaceous Perennials. APS Press. St. Paul, MN. 281 pp.

Lewandowski, D. J. [Hosta Virus X](#). Ohio State University Extension Facts sheet 3 pp.

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