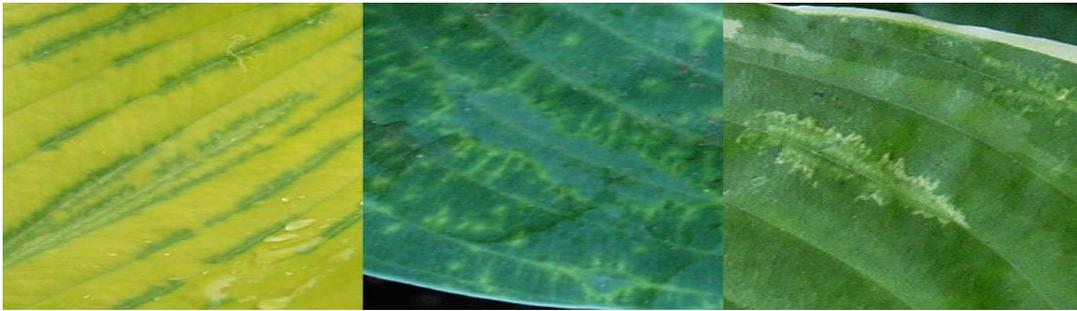




## Common Symptoms of Hosta Virus X



**Inkbleed** - This is perhaps the first noticed and most common symptom of HVX infection. It is an early sign, which is usually present to some degree in almost all hostas showing visible HVX symptoms. Usually a clearly different color from the surrounding tissue, and centered by a vein. It is assumed that the virus came from the vein and is spreading into the leaf tissue, causing discoloration as it infects healthy tissue.



**Collapsing Tissue** - Usually a sign of heavier infection, this looks as if the leaf tissue has collapsed as if all the water was removed from those spots. Although the word "desiccation" is sometimes used to describe this symptom, the tissue is not dry or dead and can remain the whole season. As the photos illustrate, it can be accompanied by discoloration and is often more glaucous with heavier wax than surrounding healthy tissue. Inkbleed symptoms can usually be found on plants with collapsing tissue.



**Mottled Tissue** - The third type of symptom really doesn't have its own name because this symptom can be caused by other viruses as well. Plants with this mottled tissue have tested positive for HVX, but there is sometimes the possibility that another disease caused the symptoms and that HVX was present but not yet causing symptoms. A plant exhibiting symptoms like these should be considered to be infected by a virus and destroyed, as this type of mottling is never a mutation in a healthy hosta.

Information courtesy of the HostaLibrary (<http://www.hostalibrary.org/firstlook/HVX.htm>) .

## What you should do if you have an infected plant.

### Dispose of HVX-infected plants - There is no cure for HVX.

Test strips are available that can accurately diagnose Hosta Virus X. Getting rid of known HVX infected stock is the best means of preventing the spread of the virus. The virus needs a living tissue in which to survive and it does not survive in the soil without living hosta tissue to nurture it. Remove HVX-infected hostas from the garden. Sending the entire plant, including soil ball containing the majority of roots, to a municipal waste treatment facility is a good option. We recommend you place the infected plant in a dark plastic bag and send it to the landfill. *Do not place it at the curb in view, as someone may come along and take the plant and replant it, not knowing that it is diseased.* If you wish to replant a different hosta in the same location, wait a few months (we recommend waiting until the following growing season) to allow any root remnants from the removed hosta to decompose. Remember, the virus can only survive if there is living tissue and sap to nourish it - once these are gone the virus soon succumbs.

Banishing HVX-infected hostas from your property reduces possible virus transferral from plant to plant by physical means such as on gardening tools or your hands. When deadheading hosta blooms or dividing hostas, with HVX spread prevention in mind, practice disinfecting your tools and hands with rubbing alcohol, methyl alcohol or a 10% bleach solution before moving on to the next plant.

### Hosta Virus X may be in a plant for three or more years without the plant showing symptoms.

Because plants may be symptom free, it is important to practice disinfecting your tools, as recommended above, between plants as a precautionary measure even if the plants do not show symptoms of the virus.

### Containing the spread of HVX prevents virus mutations leading to further problems.

In the realm of the possible, HVX may be able to mutate to become, over time, capable of infecting other members (not just hostas) of the plant world. This alone is a good reason to get on the HVX detection, prevention, and elimination wagon.

A cloudy area is the likelihood of transmission of HVX to uninfected hostas or other plants or other species in a garden setting. Bill Meyer writes on the American Hosta Society web site:

*“Although specific research has not been completed yet on how it is spread, there is good reason to assume that it cannot be spread by insects, fungi, nematodes, or pollen. Limited research has indicated it may infect plants other than hostas, but it has not been observed in other plants at this time. Transmission through seed is not considered very likely, but not ruled out. The primary method of infecting plants is moving fresh sap from one plant to another. There are any number of ways to do this, including the cutting of rhizomes, leaves, or scapes, lawn mowers and string trimmers, handling hail-damaged plants, keeping plants with fresh cuts in contact with each other, and possibly animals feeding on leaves....”*

If your garden is in close proximity to another garden in which HVX-infected hostas have been recently planted, gardeners should **not** consider their current hosta collection to be (or will forever remain) HVX-free. It has not been ruled out that viable Hosta Virus X can be transferred in saliva of mammalian hosta munchers or injected by insect piercing/sucking mechanisms as they move from infected plants to previously virus-free plants.

Unintentional transfer of HVX- infected sap can occur in the garden at times of accidental injury by tools used in tending the plants or in dividing uninfected hostas after using the same tools which have been in contact with infected hostas.