What is an invasive virus?

Invasive viruses are some of the most insidious invasive species that we have, due to their hard to detect nature. This phrase describes invasive microbes that did not originate here in the region, such as Oak Wilt. Due to their non-native origin, many of our native plants and animals do not have a resistance to these diseases. For example, smallpox was not present in the Americas before European colonization, so the native people here had very little resistance to it. It works the same way with plants which have low resistance to these "new" diseases.

Report your findings!

iMapInvasives is the state database for invasive species, used by many state agencies and citizen scientists. By going online to www.NYimapinvasives.com and requesting a log-on, you can report what you see in our ecosystems after a brief online training. They have an app that you can use from your phone to report all forms of invasive species. The Capital Mohawk PRISM offers trainings on these programs as well, contact us to find one in your area and start being a part of citizen science!

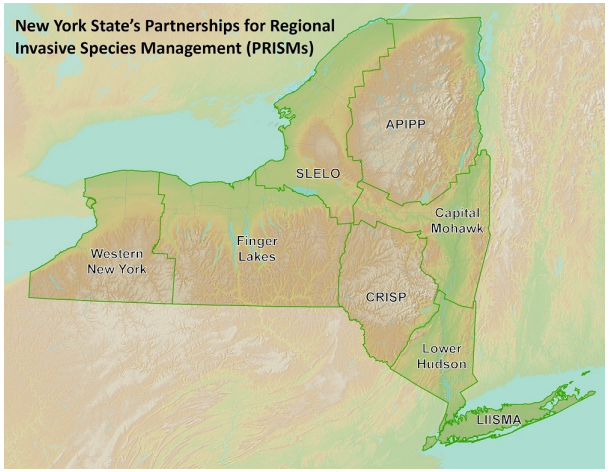
Online Resources

NY Invasive Species Info: http://www.nyis.info/ has great information on Late Blight, Oak Wilt, and more under Pathogens and Parasites.

MSU Extension on Downy Mildew: http://msue.anr.msu.edu/news/how_to_manage_impatiens_downy_mildew_in_the_landscape

Imap Invasives: https://login.imapinvasives.org/nyimi/home/

DEC info on Oak Wilt in NY: http://www.dec.ny.gov/lands/46919.html



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Invasive Viruses of the Capital Region

Capital/Mohawk PRISM
Partnership for Regional Invasive Species Management

Tar Spot

Tar spot is an invasive fungal leaf disease. It is a good example to use when teaching about invasive viruses due to the obvious 'cigarette burn' markings that it leaves. It is primarily reported on maples, most commonly on invasive Norway maples that can then spread the disease to native species of maple. Spores from the fungus over-winter in the burn marks on the leaves and can survive composting. The most effective treatment is the removal of infected leaves, followed by burning those leaves to destroy spores. Do not compost.

Late Blight

Late blight is caused by something called an oomycete, which is a fungus like organism in its own distinct category called a water mold. It is known to affect tomatoes and potatoes, showing as dark brown spots that cover large parts of the fruit. It spreads in mostly cool, damp weather and can infect thousands of plants per day in the right conditions. This makes it of extreme concern to farmers as it can infect whole fields in short periods of time. Late blight is the disease that caused the Irish potato famine and it lives on to this day, with the ability to spread field to field. Estimated late blight cost to US Growers in 2001 was $287 million.

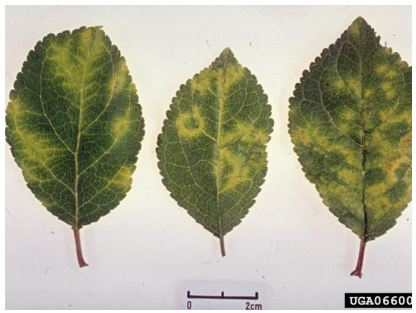
Oak Wilt

In our hardwood forests, oak is one of the predominant species, making the movement of Oak Wilt through New York of great concern. It is a fungal infection in the leaves that moves quickly in the red oak family though it affects all species of Oak. (*Quercus spp.*) It is fairly uncommon in this area, so finding infections of Oak Wilt in the Capital region is a high priority to prevent the spread. The disease shows as a dead crown during the summer and as damage to the individual leaf moving from the tips to the base, turning the leaf a bronze color, leading to early leaf drop. Please report sightings to the DEC or Capital Mohawk PRISM.

Plum Pox (Sharka)

Plum Pox Virus, or PPV, can affect stone fruits such as apricots, cherries, peaches and plums. This insidious virus can hide in plain sight for up to three years without symptoms. When symptoms do occur, leaves can be seen crinkling and puckering and rings can be seen on fruit, where quality and yield shrink dramatically. Timely eradication of infected trees is the only method of control for Plum Pox Virus.* Early detection of this species is of paramount importance due to the impact that it can have on agriculture. Another sign of this disease is vein yellowing on leaves as well as light green/ yellow rings. It is estimated to have a $600 million impact globally.

*(Cornell PPV Lab)



Impatiens Downy Mildew

This is a fungal disease that is also a water mold. It, like late blight, can be very weather dependent. Seen as a discoloration of leaves first, the premature falling of leaves can cause bare stems and impeded plant growth. In landscaping, infected plants should be pulled, bagged, and destroyed to prevent the spread. After that, impatiens species should not be planted in the same infected bed. Using other shade tolerant plants is the best way to prevent the spread of downy mildew, some natives such as Wild Ginger and Christmas fern offer great alternatives.

Phytoptera capsisi

P. capsisi is a plant pathogen that affects a wide range of crops such as cantaloupe, cucumber, watermelon, bell pepper, tomato, snap beans, and lima bens. Symptoms include seed rot and seedling blight and the disease usually shows in low fields. This disease can be managed through crop rotation in infected fields to a non-host species. The disease survives in seed and plant debris from the host plants.

STOP THE INVASION
Protect New York From Invasive Species