

Program Spotlight

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Plant Disease Diagnostic Clinic

The Plant Disease Diagnostic Clinic saw some very exciting diseases this season. Although we examine all categories of plant material (turf, fruit, vegetables, etc.) for pathogens, the majority of the samples we receive are woody ornamentals.

Last season we received numerous samples that appeared to have symptoms of a fungal infection, but in most cases the only fungal organism we could isolate from the affected plant material was *Pestalotiopsis* sp. *Pestalotiopsis* sp. is a weak pathogen that often infects damaged and declining tissue. The symptoms present on these samples did not match those produced by the fungus when it is a primary pathogen, therefore we concluded these infections were secondary. Due to the broad host range of affected plants and the vast geographical locations of damage, it was concluded that the primary cause of this damage was environmental stress.

This season began with a few samples that appeared to be a continuation of last year's stresses with *Pestalotiopsis* sp. found on Arborvitae and Pine. However, early in April an abundance of needlecast diseases flooded the clinic. We received samples of Rhabdocline and Swiss Needlecast (often found together) on Douglas Fir, Diplodia Tip Blight, Ploioderma Needlecast, and Dothistroma Needle Blight on Austrian Pine, Phomopsis Tip Blight on Juniper and Canavirgella Needlecast on White Pine. Later in the summer, many samples displayed symptoms of drought stress. A contributing factor to these symptoms may have been the strange winter weather of warm periods with sudden cold drops. White Pines were seen throughout the region with damage from an unknown cause. Some diagnosticians are now speculating possible ozone damage.

Leaf Diseases

Leaf blights and spots were not as abundant on broad leaf plants. This appeared to be a good year for Hickory Downy Leaf Spot and Powdery Mildew but few other leaf diseases were submitted. A new disease to our area is Marssonina Leaf Spot. It was found on Daphne plants growing in a landscape setting at a home in Essex County. Daphne can be found commonly in the area and plants have naturalized into the surrounding woods. The disease has been reported on *Daphne* sp. in Washington State but never in the east.

The Eastern Filbert Blight fungus has been found on a number of *Corylus* sp. in the past and this year we received an infected sample of Harry Lauder's Walking Stick, a common specimen plant. Wilting pathogens such as the Dutch Elm Disease fungus on American Elm and the Verticillium Wilt fungus on Maple and Elm were detected on a few samples. Phytophthora Root Rot is probably the most commonly found root disease of samples submitted to the clinic. This season was no exception with samples of infected Lingonberry, Rhododendron, Arborvitae, and Holly. Armillaria Root Rot was found on Arborvitae and we had a number of samples that appeared to have root disorders, which may have been the result of improper planting, environmental conditions, and/or soil compaction. As for cankers, the most interesting was Bleeding Canker on Beech.

Other Interesting Cases

Early in the season we started to see lilacs developing symptoms of black shoot tips that eventually curled into a shepherd's crook. Questions came in from nurseries and homeowners about the possible cause of the damage. The pathogen was identified as a bacterium that causes Bacterial Blight of lilac. This disease appeared very close to flowering time and, therefore, most of the lilacs in the area had poor blooms. It is also capable of infecting forsythia and blueberry and we received some samples of these plants a few weeks later. Images and a new fact sheet are available at the clinic's website at: <http://plantclinic.cornell.edu/FactSheets/LilacBactBlight/lilacbactblight.htm>.

A mysterious sample of honey locust with galls on the branches came from a consultant in Iowa and a nursery in Illinois. We were stumped as to the cause of this damage and asked other diagnosticians from around the country if they had seen anything like this before. A researcher in Ohio replied that they had first seen this symptom a couple of years ago. It has been found in Ohio (both nursery and landscape), Michigan (nursery), and Illinois (nursery). The symptoms appear on at least two cultivars, Skyline and Shademaster. All affected stock appears to have originally come from Oregon. The researchers from Ohio are suspecting a bacterial problem and are tentatively call-





The Plant Disease Diagnostic Clinic

The Plant Disease Diagnostic Clinic at Cornell University is available to provide fast and accurate plant disease diagnostic services. Members of the clinic strive to supply you with the answers you need, as quickly as possible.

We are capable of analyzing not only turfgrass for plant disease infections caused by fungi, bacteria, nematode and virals but also trees, shrubs, herbacious plants, fruit and vegetables.

For more information, please contact Karen L. Snover

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Daylily Rust, caused by the fungus *Puccinia hemerocallidis*, doesn't infect woody ornamental plants but is worth mentioning for those of you that deal with ornamentals in general. It is a new disease to the United States but has been commonly found in other countries such as China, Japan, Korea, Taiwan, and Russia for many years. It was first identified in August 2000 in the southeast United States. The disease moved swiftly throughout the country and by the fall of 2001 it had been identified in over 30 states including New York. The reason for such a fast movement of the pathogen is most likely due to the widespread, fast shipment of plant material throughout the country.

The alternate host is *Patrinia* sp, a perennial plant of which six species are known in the United States. *Patrinia* allows sexual reproduction of the fungus. Although it is required to complete the lifecycle of the pathogen, the fun-

gus is capable of producing spores that are aggressive and virulent on daylily alone. The literature includes *Hosta* sp. as another reported host. Research using isolates of the US daylily rust on hosta have not resulted in disease development. Whether hosta is a host is still unknown at this time. Although the pathogen has been found in several upstate New York counties, it is unclear whether it can overwinter in our area. It is suspected that the infections have been brought in on shipments of plant material from warmer regions each year.

As always, if there is anything the Plant Disease Diagnostic Clinic staff can do to help diagnose or answer questions concerning your plant problems, please contact us. We are here to help! Phone (607) 255-7850 or email kls13@cornell.edu.

Karen L. Snover

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