



Diagnostic Facts

Diagnostic Services
Center for Integrated Plant Systems
Michigan State University



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www.cips.msu.edu/diagnostics

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Daylily Rust a new disease in Michigan

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Daylily rust was found at several locations in Michigan this fall. The disease is native to Asia and was first found in the United States in Georgia in August 2000. Shortly thereafter the disease was confirmed in Florida, Alabama and South Carolina. The disease has continued to spread and in the 2001

growing season it has been confirmed in at least 24 states including the nearby states of Illinois, Pennsylvania, Ohio and Indiana. Once the disease is established intensive scouting, removal of infected foliage and regular fungicide applications are all needed

to control the disease. The Michigan Department of Agriculture is currently creating a policy for han-

dling infected plant material at nurseries, contact your regional office for more information.

Symptoms

The disease is caused by the fungal pathogen *Puccinia hemerocallidis*, and is a major concern to



Raised yellowish-orange pustules on the surface of an infected leaf.

propagators, nurseries and home gardeners. The disease causes lesions on the foliage and completely kills foliage of susceptible cultivars. The pathogen causes raised yellowish-orange, powdery pustules on the surface of infected foliage. The orange powdery substance easily rubs off onto

your fingers, this is a fairly diagnostic characteristic. Cultivars vary in their susceptibility and symptoms

may be less diagnostic on more tolerant varieties.

Biology

Little is known about the biology of this pathogen.

The fungus has a short incubation time, pustules containing spores are produced within 7 – 14 days after the foliage is infected.

Spores of the pathogen are spread by wind or with the movement of infected plant material. The pathogen has other hosts (*Patrinia spp.* and possibly *Hosta spp.*) but does not need them to produce spores capable of re-infecting daylilies. The ability of the pathogen to overwinter or survive on infected plants throughout a Michigan winter is not known.

More detailed information about the disease is available at two web sites – www.ces.uga.edu/agriculture/plantpath/daylilyrust.html and www.aphis.usda.gov/npb/daylily.html.



A magnified view of rust spores produced on daylily foliage.

Control

Infected foliage should be removed and destroyed. New growth should be protected with fungicides applied at the labeled rate and application interval.

Chemical control of the disease is still under investigation, trials conducted at the University of Georgia found that Daconil Ultrex (chlorothalonil), Fore (mancozeb) and Heritage (azoxystrobin) applied with a surfactant provided effective control when applied prior to inoculation. The number of times Heritage can be applied is limited (due to the potential for pathogens to develop resistance) so this product should be rotated with other effective products – consult the label for more details. Plants that are suspected of having daylily rust can be submitted to Diagnostic Services (517-355-4536), this disease can be confirmed relatively easily and results are usually faxed back on the same day samples are received.

Photos: Jan Byrne, Plant Pathologist, Michigan State University Diagnostic Services.

NOTICE: The user of this information assumes all risks for personal injury or property damage. Always read the label before making pesticide applications. The pesticide label is the legal document that regulates the use of a pesticide. Pesticide labels can change suddenly. These recommendations are not intended to replace the specific product labels.

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