Montana Invasive Species Education

Invasive Plant Diseases

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5A Black Stem Rust

Photo: USDA ARS
Yue Jin

5B Late Blight

Photo: USDA-ARS Scott
Bauer

5C Plum Pox Virus

Photo: European and Mediterranean Plant
Protection Organization Archive, France

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5A

Black Stem Rust


USDA ARS Yue Jin

Class: Pucciniomycetes
Order: Pucciniales
Species: *Puccinia graminis* Persoon

Black Stem Rust (BSR) is caused by a parasitic fungus, *Puccinia graminis,* which causes crop damaging pustules to erupt on the stems and leaf sheaths of wheat, oats, rye, barley, and grasses. *P. graminis* must have two entirely different plant species as hosts in order to complete its lifecycle; barberry and one of the grass plants it destroys. While infecting each of these hosts there are a number of different spores which germinate and are necessary to complete the life cycle. The spores travel between the plants by wind. Removing barberry shrubs from areas near fields is necessary for control; this is difficult because birds spread barberry shrubs after eating their berries. You can help stop Black Stem Rust by avoiding planting susceptible ornamental barberry shrubs and reporting any sightings of BSR to your local Extension office.

For more information and to visit the source link to:
http://ars.usda.gov/Main/docs.htm?docid=10755
APHIS: Black Stem Rust
http://homeguides.sfgate.com/stem-rust-barberry-61114.html

5B

Late Blight


USDA ARS Scott Bauer

Class: Oomycota
Order: Peronosporales
Species: *Phytophthora infestans* (Montagne) de Bary

Late blight of potato and tomato caused by *Phytophthora infestans* is a devastating disease worldwide and led to the Irish potato famine in 1845. Under favorable weather conditions, tomato and potato crops can be destroyed within days. Late blight damages both leaves and tubers of potato crops. Yield losses caused by late blight and the cost of control measures have been estimated to exceed $6.7 billion dollars annually and the disease is a major threat to food security worldwide. Late blight is present in the western U.S. Scientists employ many tactics to control this invasive disease. You can help stop late blight by planting certified seed potatoes and reporting any sightings of late blight to your local Extension office.

For more information and to visit the source link to:
http://usablight.org/lateblight
http://ohioline.osu.edu/hyg-fact/3000/3102.html

5C

Plum Pox Virus


European and Mediterranean Plant Protection Organization Archive, France

Family: RNA virus, Potyviridae
Genus: *Potyvirus*
Species: Plum Pox Virus

Plum Pox Virus (PPV), a.k.a. Sharka, causes disease in stone fruit crops such as peaches, plums, apricots, nectarines, almonds, sweet and sour cherries, as well as in other selected *Prunus* and non-*Prunus* species worldwide. PPV is a native of Europe and was first detected in Pennsylvania in 1999. PPV has seriously damaged stone fruit crops in some states and could devastate the stone fruit industry of the U.S. as it is the most devastating viral disease of stone fruit in the world. Once infected with PPV the fruit is ruined by discoloration and deformity. The virus can be transmitted to healthy plants by more than 20 different aphid species. PPV is also spread by movement of infected nursery stock. You can help stop Plum Pox Virus by watching for it on fruit trees and reporting any sightings of PPV to your local Extension office.

For more information and to visit the source link to:
APHIS: Plum Pox Plant Protection and Quarantine
http://pest.ceris.purdue.edu/pest.php?code=FVPPVBE