Wisconsin Department of Agriculture Trade and Consumer Protection

New and Invasive Disease Survey

Apple Proliferation Disease

Apple proliferation disease could become a problem of orchards if it were introduced to Wisconsin. DATCP's pest survey team is currently conducting a survey for this disease. If you see apple trees with the symptoms described below, please contact us.

Target Disease: Apple proliferation of apple trees

Causal Agent: '*Candidatus* Phytoplasma mali', a bacteria-like organism.

Plant Parts Affected: Shoots, leaves, flowers, fruits, trunks, and roots. In orchards, infection occurs in clusters and symptoms may be unevenly distributed on trees.

Symptoms: Leaves emerge early, roll downward, smaller than normal, irregularly serrated edges, become brittle, chlorotic in summer, turn red in autumn, and may fall earlier than other leaves. Stipules are enlarged with short petioles. Smaller trunk and crown size with reduced tree vigor. Witches' brooms, terminal leaves forming a rosette, delayed flowering, flowers with numerous petals, long and thin fruit peduncles, smaller fruit, small seeds and seed cavities, and a fibrous root system.

Vectors: Leafhoppers, planthoppers, and psyllids. Leafhopper (*Fieberiella florii)* is predicted to be the most likely insect to vector apple proliferation if introduced into the United States.

Other hosts: Crab apple, cherry, apricot, plum, peach/nectarine, European pear and grapevine.

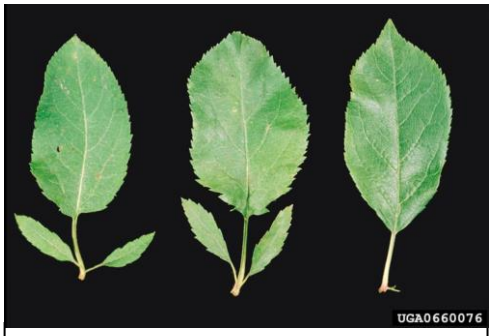

Fig. 1 Enlarged stipules
All Images from: Biologische Bundesanstalt, Institut für Pflanzenschutz im Obstbau , Biologische Bundesanstalt für Land- und Forstwirtschaft, Bugwood.org

Fig. 2 Witches' broom

Fig. 3 Small fruit

If you find symptoms of Apple Proliferation on apple, please contact:

DATCP - Plant Industry Laboratory
Anette Phibbs
2601 Agriculture Dr., Suite 150
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Phone: 608-224-4600
Email anette.phibbs@wisconsin.gov.

To send a sample, please collect all portions of the plant showing symptoms. Multiple samples from the same plant increases likelihood of detecting the phytoplasma. Keep samples COOL but not frozen and ship overnight.

You can also call us to coordinate a pickup/drop off.

Remember to note your contact information on the sample bag.

Sources:

Sullivan, M. 2013. CPHST Pest Datasheet for '*Candidatus* Phytoplasma mali'. USDA-APHIS-PPQ-CPHST.

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