

New Disease Threats for our Trees



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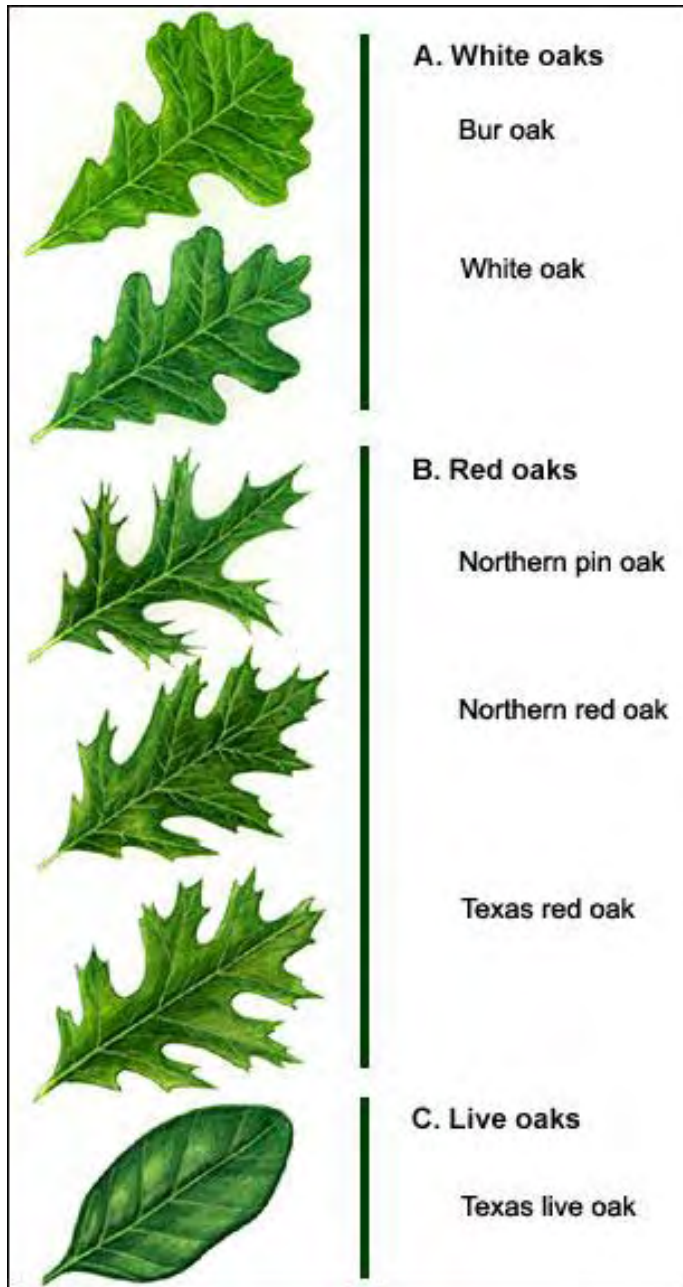
Tree Diseases on our Doorstep

- **Oak Wilt**
- **Bacterial Leaf Scorch of Shade Trees**
- **Thousand Cankers Disease**

Oak Wilt

- Affects many species of red oaks and live oaks
- Caused by the fungal pathogen *Ceratocystis fagacearum*
- First identified in the 1940's in Wisconsin





White oaks are fairly resistant

Red oaks and live oaks are very susceptible





Photo by The Iowa State Extension Service

Bark boring beetles carry in the fungal spores, and the fungus grows in the galleries, making fungal mats that produce more spores





Photo by F. A. Baker, Utah State University

Fungus moves in the vascular system of the tree.



Pin oak with oak wilt

Photo by True Blue Sam





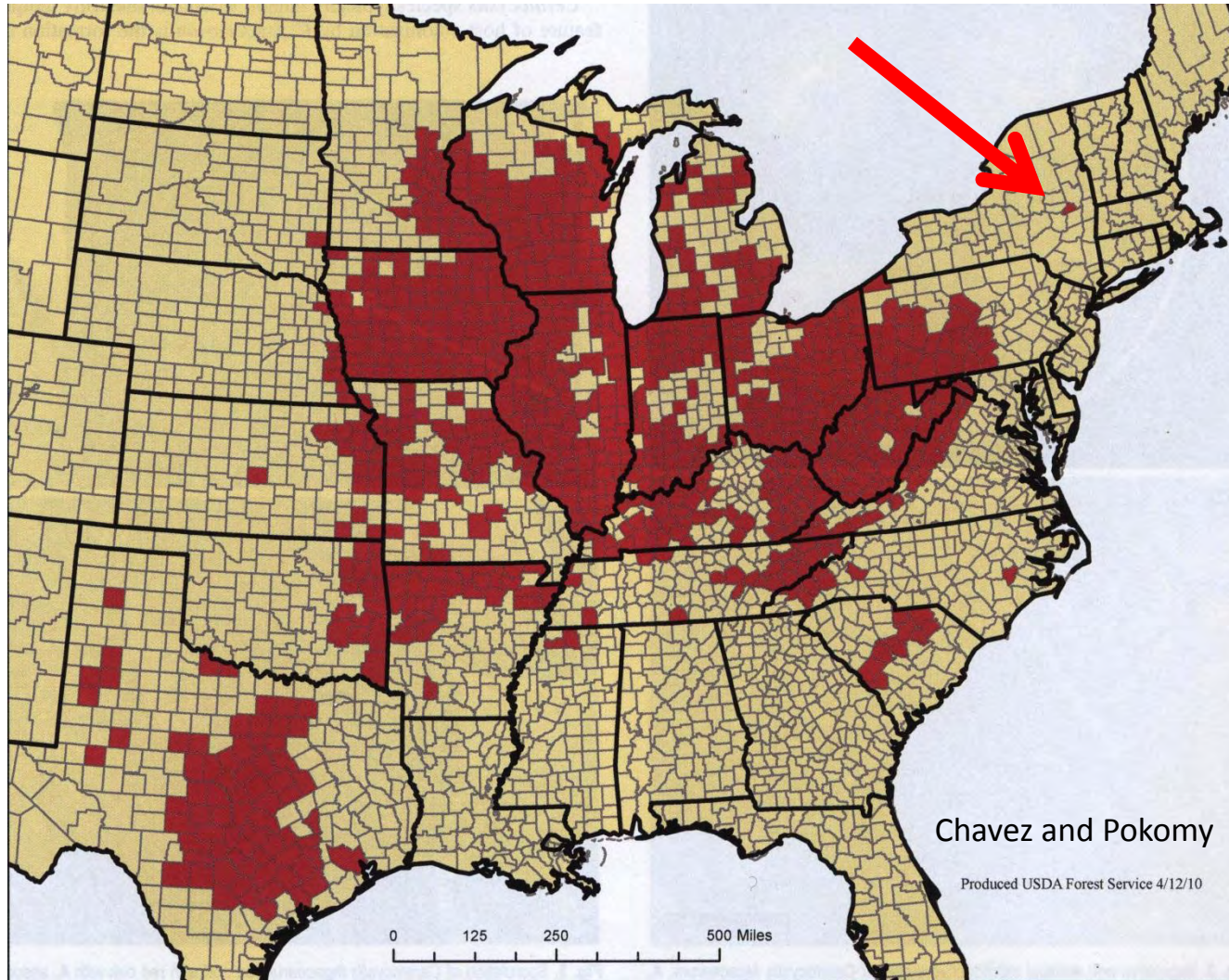
Red oaks in Minnesota with oak wilt



ISU Plant Disease Clinic



Oak Wilt



Bacterial Leaf Scorch of Shade trees

- Affects oaks, maples, and mulberries in the North East
- Caused by the bacterium *Xylella fastidiosa*
- First observed on grapes in the early 1890's, identified in 1980



- Spread by many kinds of leafhoppers and spittlebugs that have piercing-sucking mouthparts, and which suck xylem fluid out of leaf cells



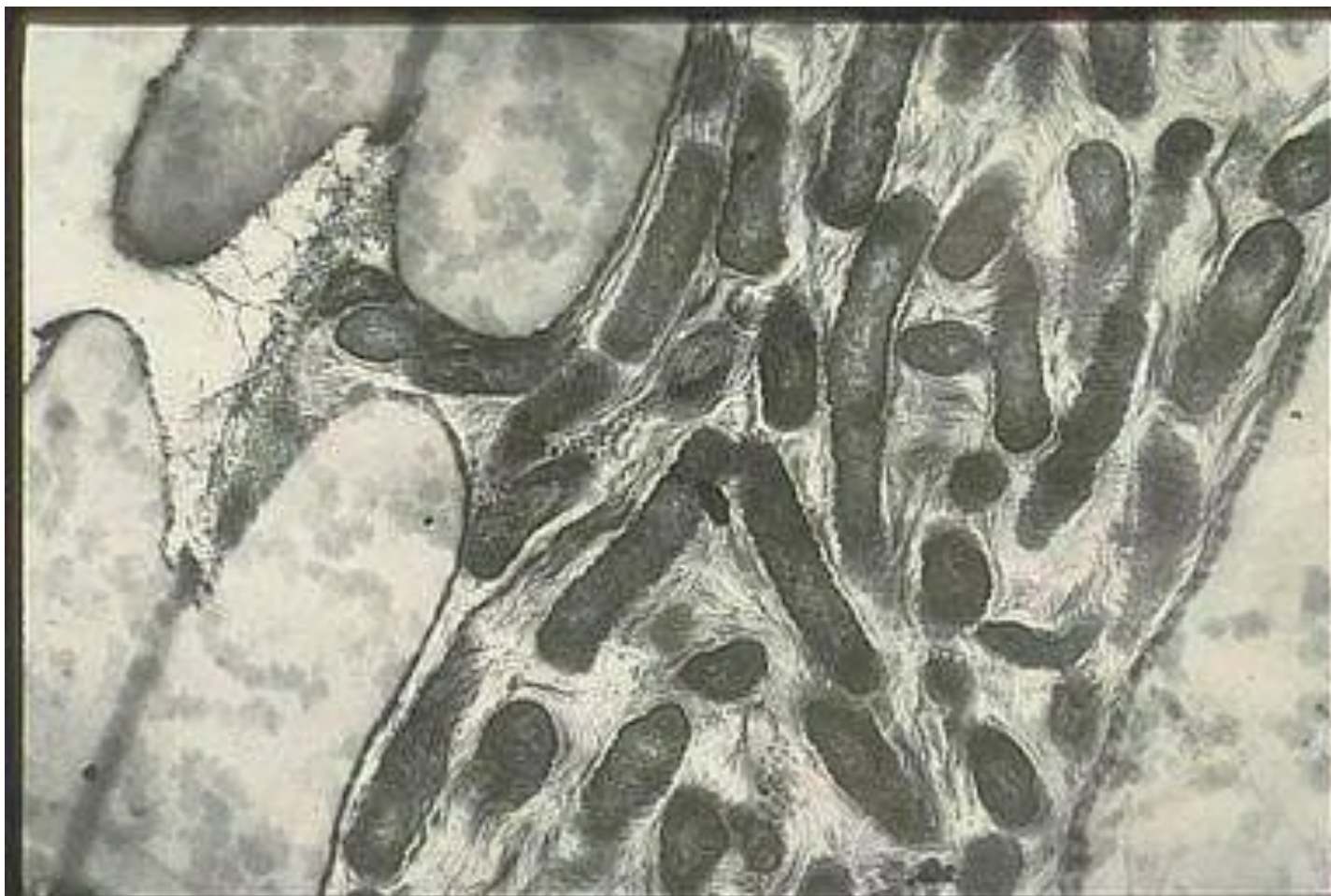


Photo by J. R. Hartman

Scorch bacteria in the xylem of a pin oak leaf petiole



Infected Pin oak showing spotty distribution of damage

Photo by A. B. Gould



Photo by Ann B. Gould, Rutgers University



Photo by Ann B. Gould, Rutgers University



Photo by J. L. Sherald

Bacterial Leaf Scorch has spread throughout New Jersey from mid-1980's when it was first detected near the center of the state.



Map by Ann B. Gould, Rutgers University



Thousand Cankers Disease

- Affects black walnuts, butternuts, Persian walnuts, and heartnuts
- Caused by the fungal pathogen *Geosmithia morbida*
- Spread by tiny, native bark boring beetles





Photo by Kathy Keatley Garvey



Photo by Jay Pscheidt

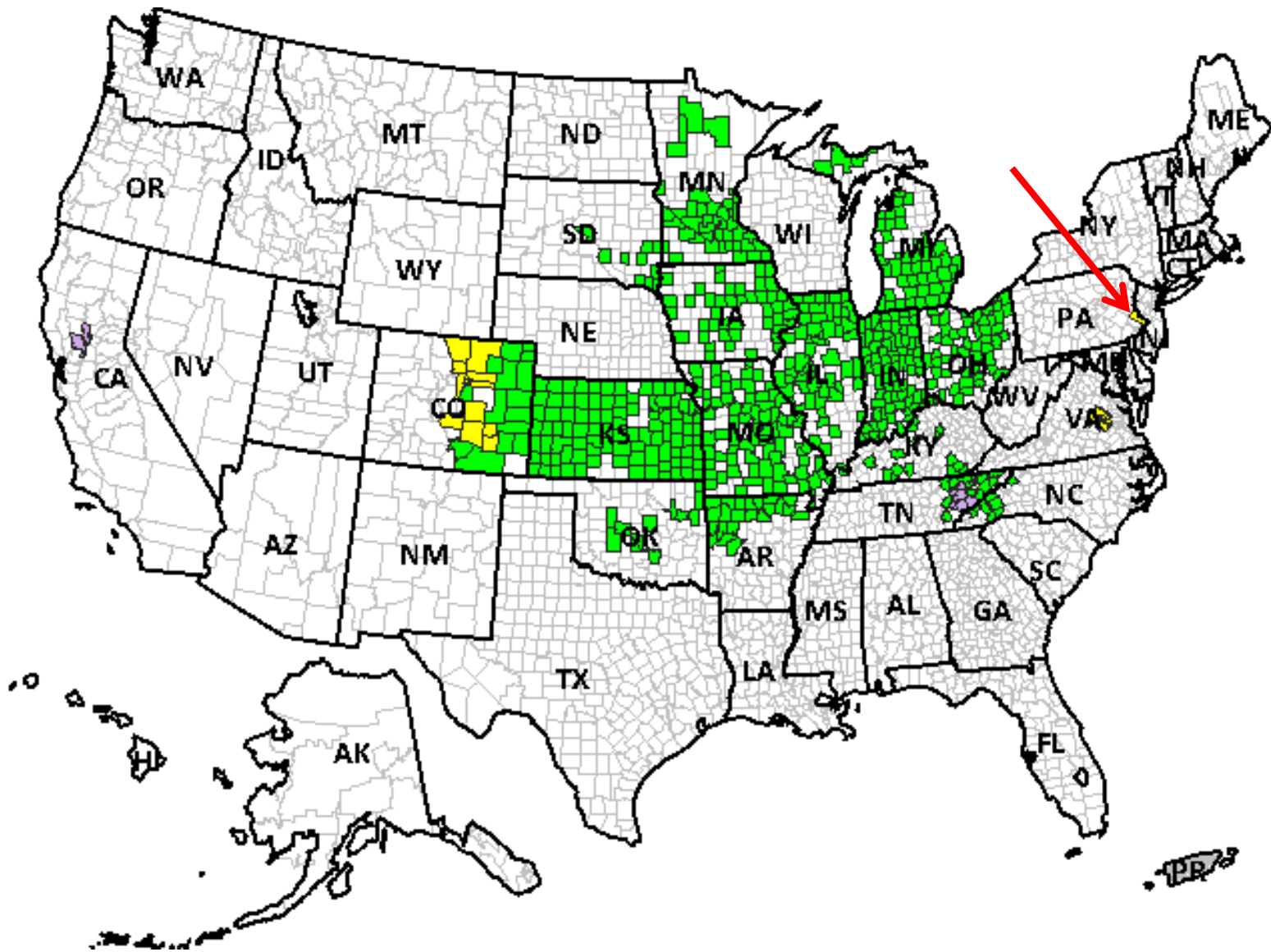
First a thinning of the canopy and then death



Photo by JoyInHome



A few cankers.....merge to kill the tree



Map made by Purdue University



“My tree is dying and I’m sure it has (1) oak wilt, (2) bacterial scorch, (3) thousand cankers disease, (4) a dire and deadly new disease.”



Herbicide damage



Construction



Volcano mulching

First questions.....



Oak Wilt



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Bacterial Scorch



A. B. Gould

Air pollution damage



Anthrachnose

S. M. Douglas



Send us a sample!

www.ct.gov/caes/pdio

Plant Disease Information Office

Sample submission information



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