




**ILLINOIS
FIRST DETECTOR**

**GYPSY MOTH AND THOUSAND
CANKERS DISEASE – ILLINOIS
FOREST PESTS ON THE RISE**

Scott Schirmer – Illinois Department of Agriculture

Gypsy Moth in Illinois




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USDA 4212034

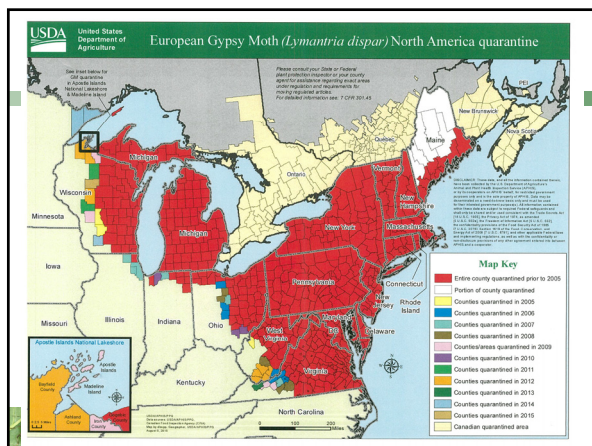

How did it get here?

- In 1869 French scientist Trouvelet imported the Gypsy Moth to cross with silk worms to create a super worm. GM are voracious eaters. It failed & then his experiment escaped in a storm and has been spreading from Boston ever since.
- Gypsy Moth causes millions of dollars of damage each year, while it feeds on 500 species. Oak is its preferred host, but also will destroy conifers.

EGM

- 1st introduced in 1869 in Boston – experiment gone bad
- Almost eradicated with DDT
- Most researched pest in history!
- Active monitoring began in 1992
- 1st quarantine in IL in 2000 (Lake Co.)
- Cook, McHenry and DuPage added by 2006
- Still active in detection, regulation, and management
- Adding Kane, Kendall, LaSalle, and Will Counties to quarantine in 2017
- 16 planned treatment blocks for 2017 (10 MD, 6Btk)
- One of the only invasives with a proven management strategy

Egg Mass, Aug - May

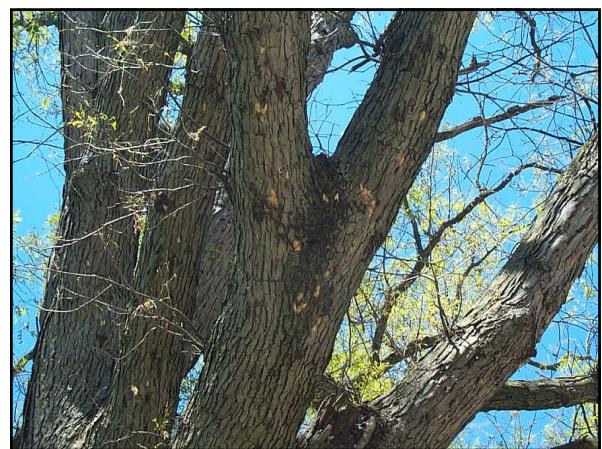
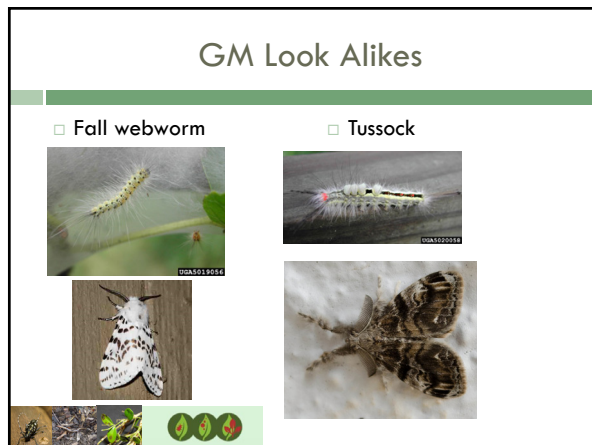
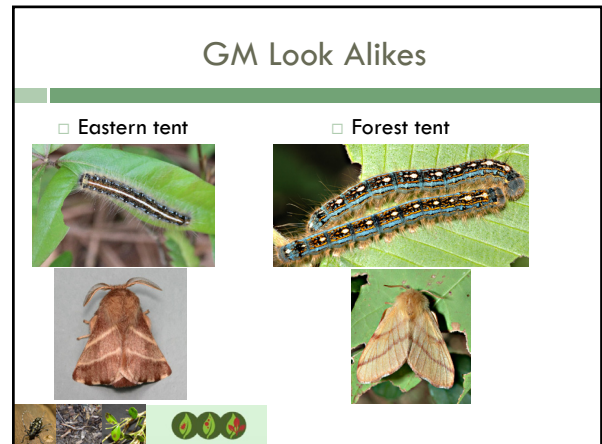
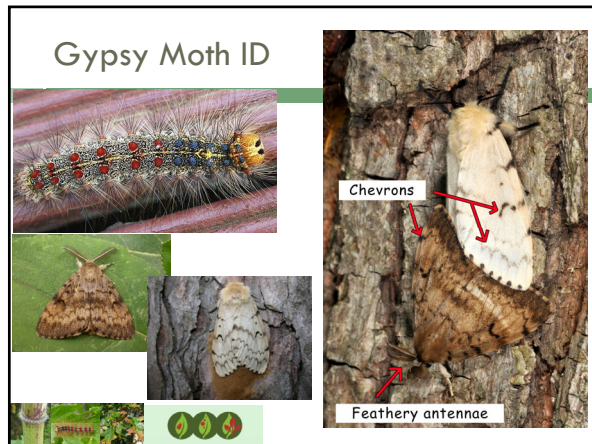
Caterpillar, May - July

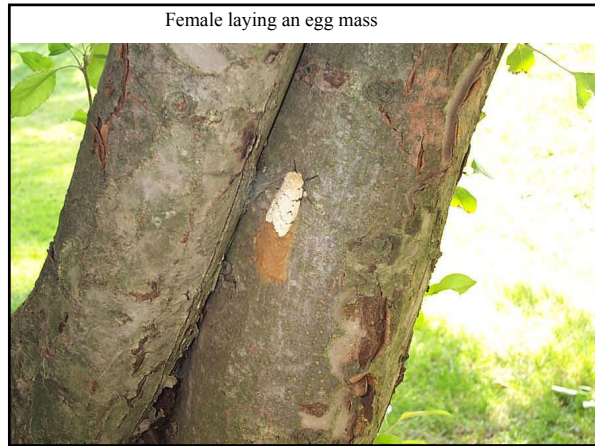
Gypsy Moth (f), July - Aug

Gypsy Moth (m)

Pupa, July

Actual size

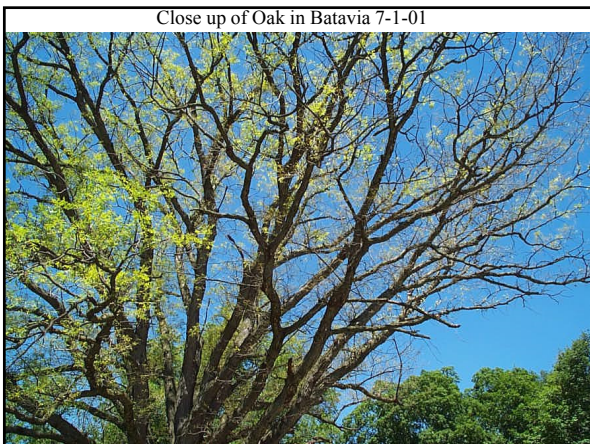
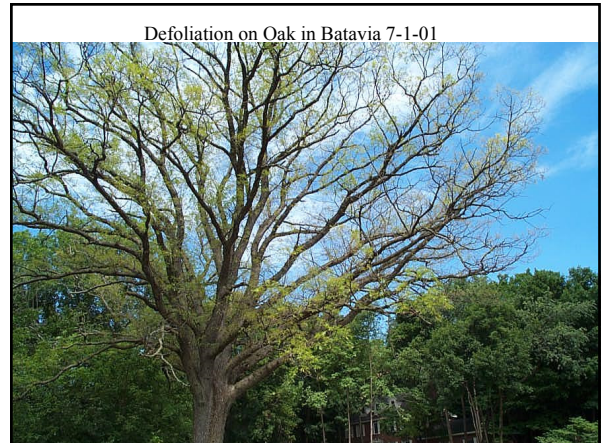


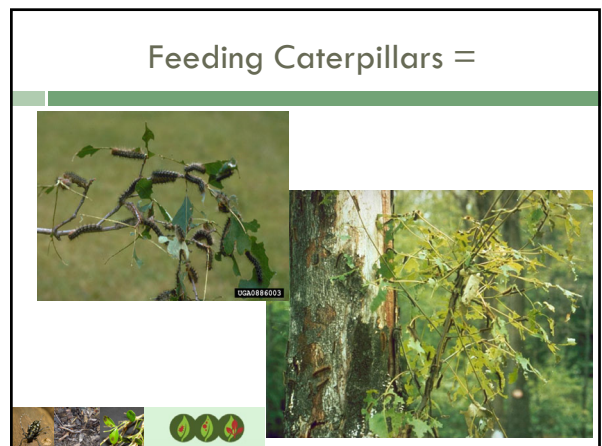
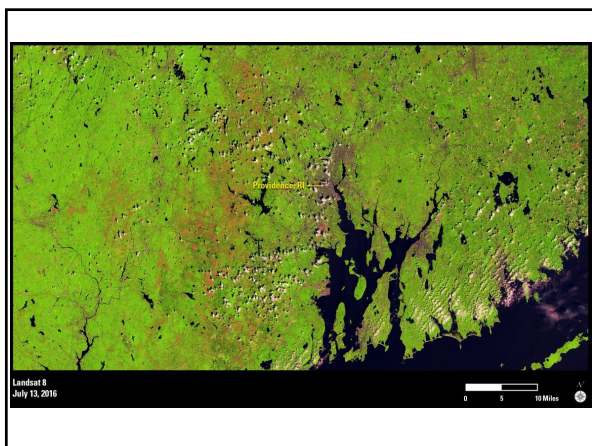
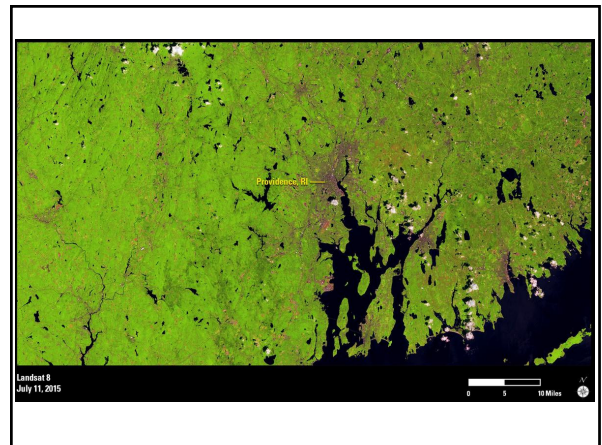


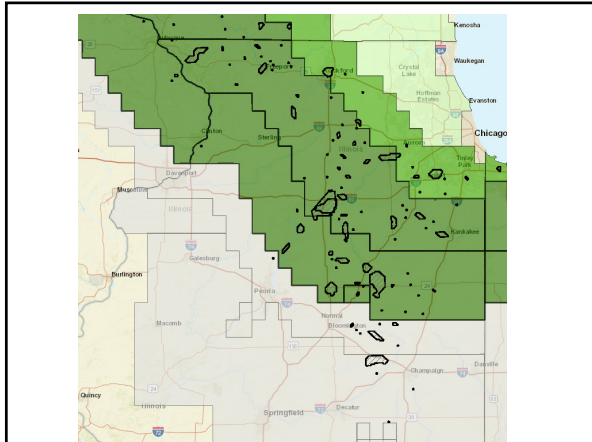
Why worry about Gypsy Moth?

- Tree can survive one aggressive/intense defoliation in a growing season, but usually not two
- Defoliation stress can be lethal when combined with abiotic or biotic factors
- Without trees, the natural balance is impacted
- Many species rely on oak; high ecological value
- Oak has a high economic and recreational value
- Without trees, property values plummet; high residential/social value
- The frass (poop) can overwhelm your yard







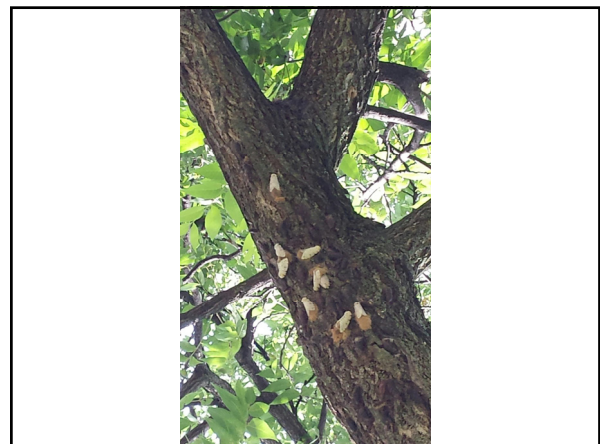
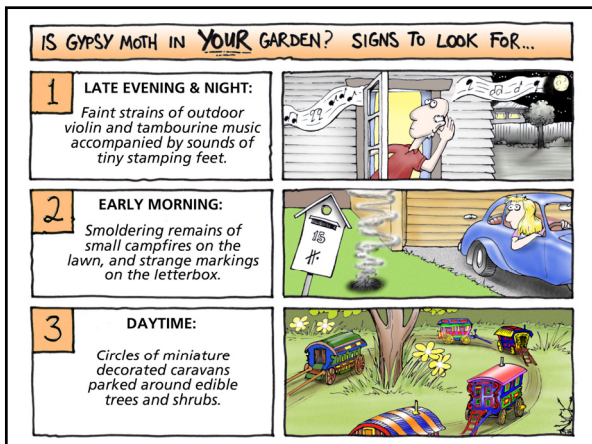
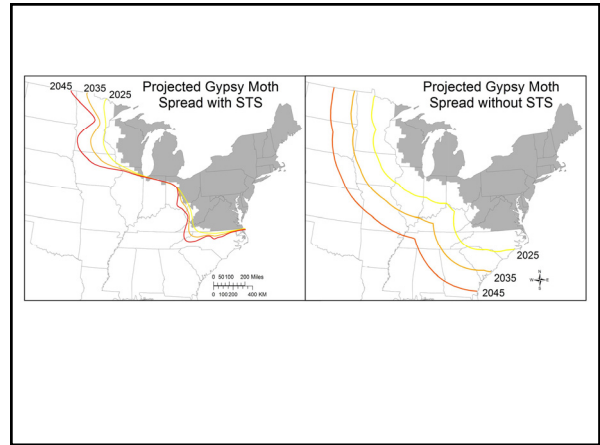
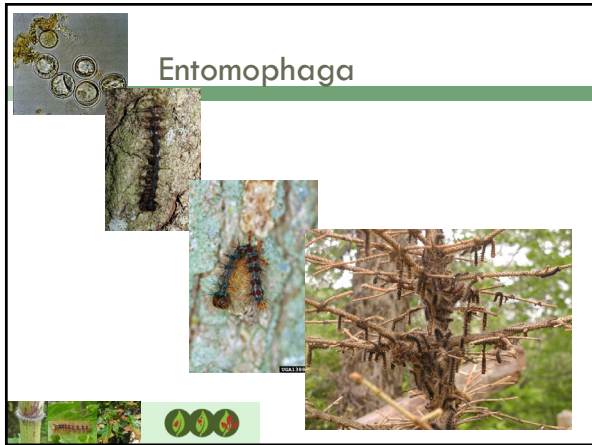
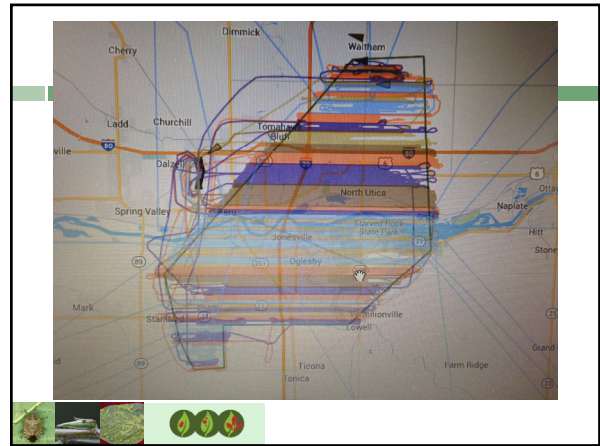
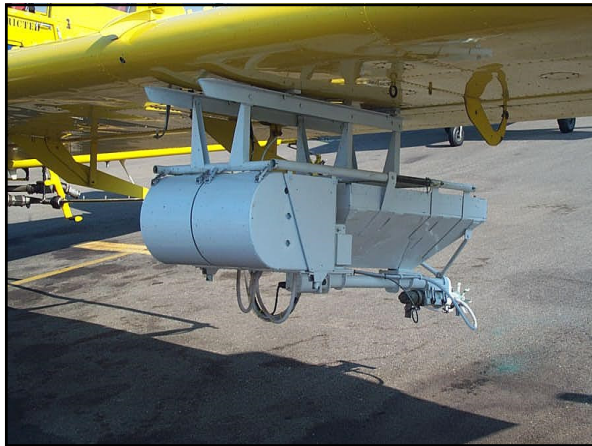


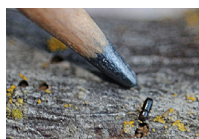
Control Measures

(ground, aerial, "natural")

- *Bacillus thuringiensis* subsp. *Kurstaki* (BTK) – bacteria
 - For intense and known/verified established populations (6 in 2017)
- Gypsy Moth Pheromone -- Mating Disruption
 - For lower levels, new populations, and outbreaks (10 in 2017)
- *Entomophaga maimaiga* – fungus
 - "Naturally" occurring growth in wet years like 2009 and 2010







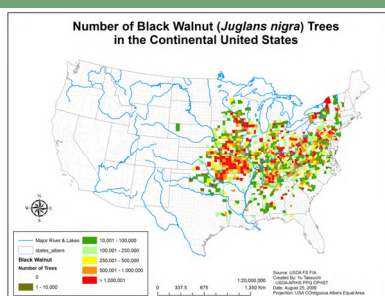
Walnut and Thousand Cankers Disease; an Illinois Perspective



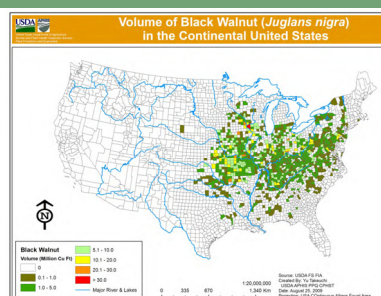
Who is at risk?



How Many Trees are at Risk?



Production at Risk?

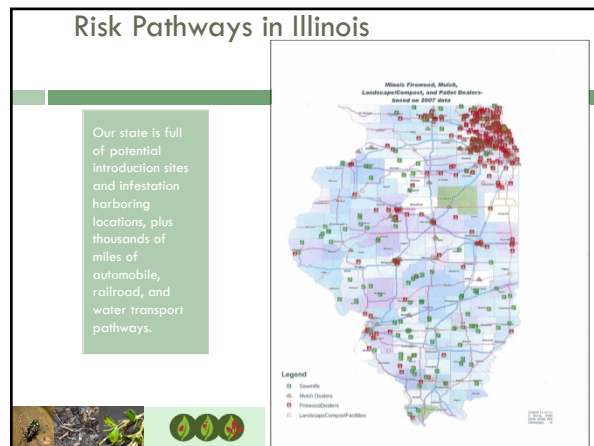


Walnut in Illinois

- Approximately 12% of Illinois is forested (4.4 million acres). Of that forested land in Illinois, 53% of the forest cover consists of oak and hickory. Included in the hickory family is black walnut.⁶
- We estimate that nearly 2.3 million acres of Illinois forests may contain black walnut and are thus susceptible to TCD.
- These numbers do not include cultivated stands of walnut that occur throughout the state or urban trees.
- Average Annual Net Growth of Black Walnut in Forests = 1.44 Million Board Feet¹
- Illinois ranks 5th in the U.S. with regard to volume of black walnut growing stock on timberland.¹²
- Volume of Black Walnut Sawtimber Trees in Forests = 885 Million Board Feet (for 11 inch diameter trees or larger)¹
- Black Walnut Trees Harvested per Year = 120,000 *based on Doyle log scale using 20" diameter tree with saw-log of 16' per tree¹
- Walnut Board Harvested per Year = 15.6 Million Board Feet¹
- Value of Black Walnut Harvested per Year = \$13.1 million (paid as stumpage price to owner) or \$18.3 million (paid as logs at mill price to loggers) *lowest conservative estimates of log value sold from forest without added value of veneer. Does not include added value of manufacturing, re-selling, export, or retail products.¹

Illinois at Risk

- Any activity that allows rapid movement of commodities also allows the development of fast-moving pathways.
- Illinois has 2 of the largest rail gateways: Chicago (nation's primary rail gateway) and East St. Louis.²
- Illinois has an interstate highway systems of >2,000 miles and >34,000 miles of other highways. Three coast-to-coast interstates (I-80, I-90, and I-70) pass through Illinois.
- Illinois has over 1,000 miles of navigable waterways.⁷
- Potential long-distance pathways of dissemination include: raw timber (veneer quality logs, saw logs, burls, stumps), firewood, wood packing material, nursery stock, scion wood for grafting, nuts, and natural spread.⁹
- A key pathway of forest pest movement is raw wood, particularly with bark still intact.⁹
- Compliance agreements are held by 43 firewood importers according to the Illinois Department of Agriculture. Emerald ash borer (EAB) state compliance agreements number 1329 while there are 159 federal EAB compliance agreements.
- University of Illinois Extension Forestry states there are over 100 sawmills in Illinois.
- Solid wood packing material (SWPM) is a potential pathway for the movement of exotic bark beetles, including WTB as SWPM is often made of unprocessed raw wood. The National Wooden Pallet Association estimates that 1.2 billion pallets are currently in circulation in the United States, with 93% of all goods moving on those pallets.⁹
- Illinois Department of Agriculture has more than 700 certified/licensed nurseries and over 3,400 certified nursery stock dealers.

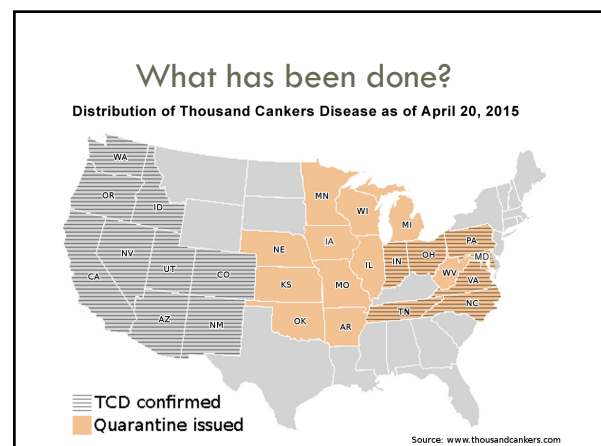
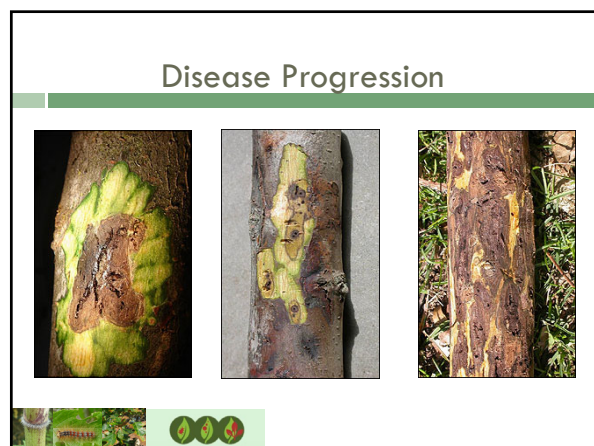


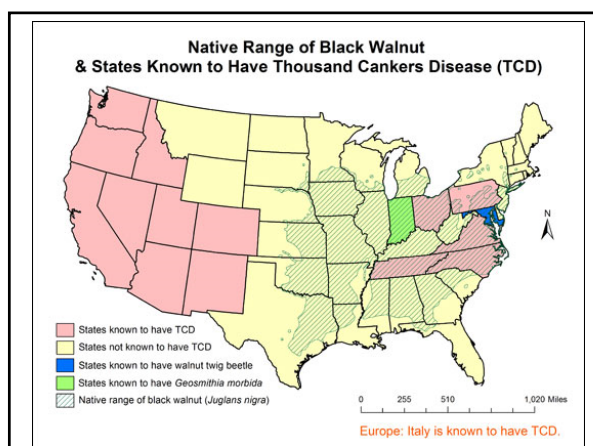
Tips for Scouting

- Know what a black walnut looks like; versus tree of heaven, sumac, hickory
- Best time to look is mid-June through August
- Look for patterns – multiple symptomatic trees
- Seeing a lot of sky through the crown
- Look for scattered dead branches with dead leaves still attached

Look Alikes?

- Anthracnose
- Dead walnut





Why Put in an External Quarantine?

- ☐ Protect our walnuts.
- ☐ Prevent, or minimize, the potential for artificial introduction.
- ☐ Preserve our resources, for both natural uses and commercial production.
- ☐ Protect investments of stakeholders.
- ☐ Maintain our ability to trade/sell clean and safe Illinois products.
- ☐ Establish a framework for future surveys, monitoring, and regulations.
- ☐ Establish a compliance program.
- ☐ Outreach to, and educate, industry and public.
- ☐ Get people aware and thinking about this issue.



Survey and Detection

- ☐ Trapping at high risk sites (log yards/mills, firewood producers/distributors, etc.)
- ☐ Destructive survey – “trap” trees
- ☐ Visual scouting

-Compliance agreements and pre-notification of shipments.



Thank you.

- ☐ Questions and concerns?

