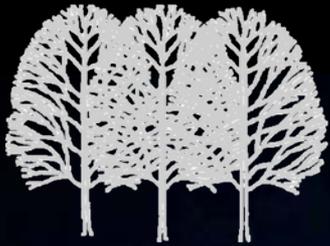


Emerald Ash Borer



LEAWOOD
Parks & Recreation

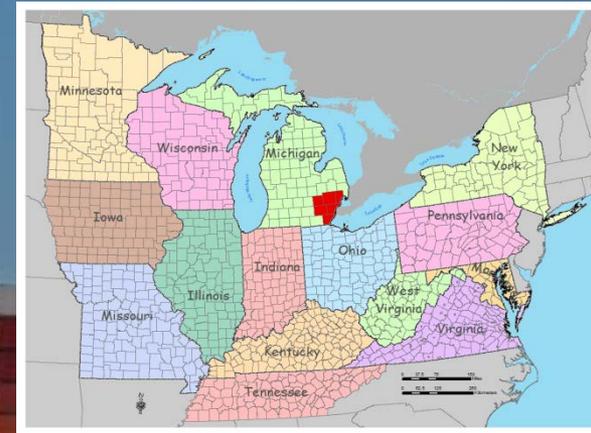


We'll cover...

- What is Emerald Ash Borer?
 - History
 - Identification & Biology
 - Symptoms
- What you can do
 - To keep or not to keep
 - Treatment considerations
 - Hiring an arborist
- Resources



Emerald Ash Borer



EAB most likely entered North America via ocean liners carrying infested packing crates. It was first discovered in Michigan around 2002.

In 14 Years...

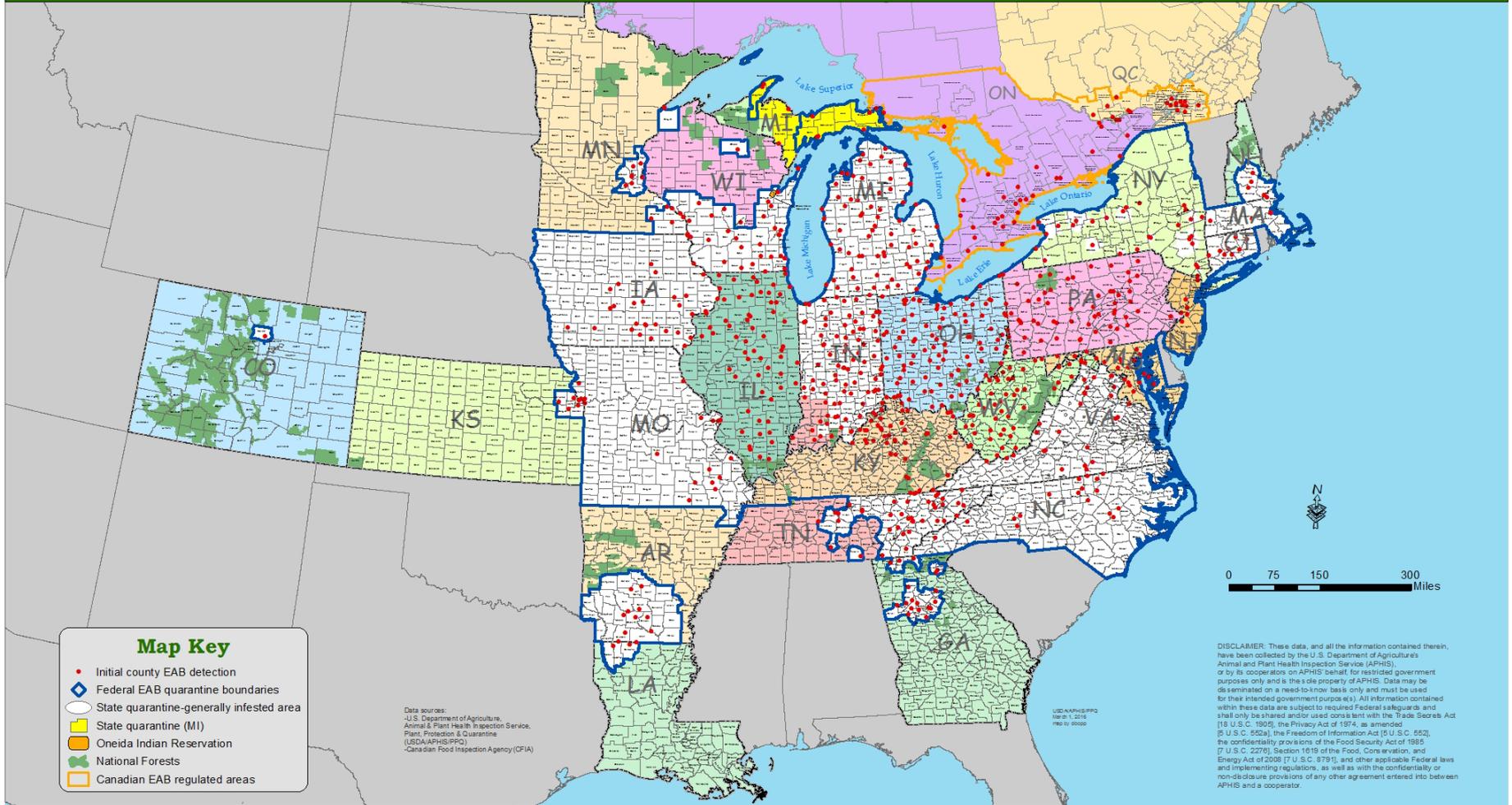


United States
Department of
Agriculture

Cooperative Emerald Ash Borer Project

Initial county EAB detections in North America

March 1, 2016



Spread of EAB



- Firewood
- Nursery stock (no longer available)
- Natural spread

Why Should You Care?

- EAB will kill ALL ash trees unless they are treated
- If you have an ash tree, it will cost you money one way or another
 - Removal
 - Treatment
 - Replanting
- Loss of urban tree canopy



Economic Value of Leawood's Right of Way ash trees



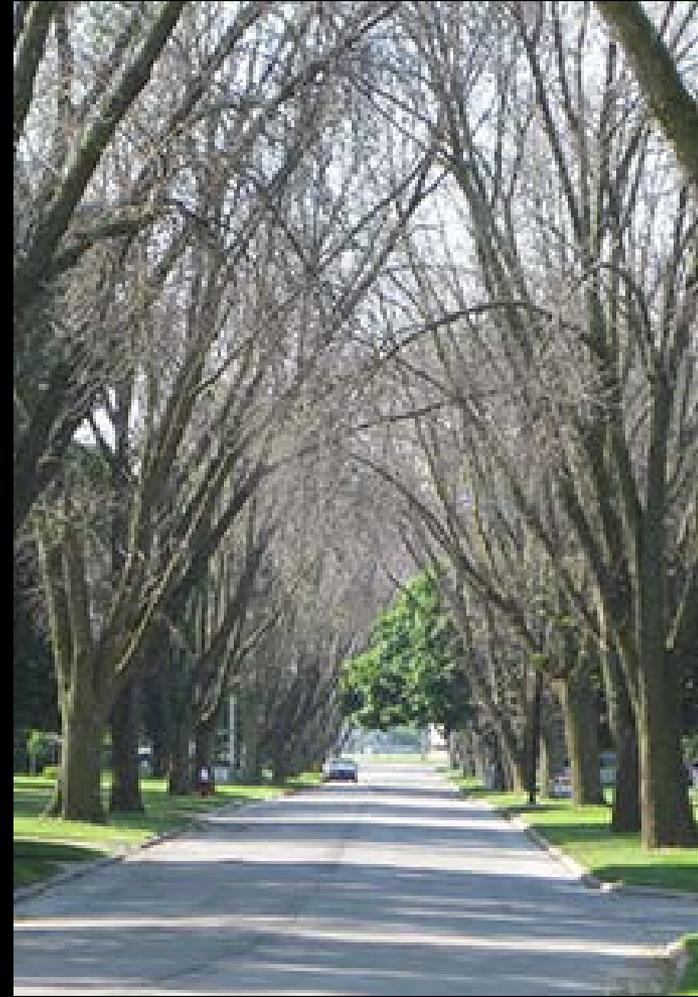
- 24% of all ROW trees are ash
- 9,134 Ash street trees
- Total replacement value = \$13,617,609
- Annual benefits exceed \$524,500

Benefits of Urban Trees

- **Trees** provide oxygen and sequester carbon
- **Trees** provide habitat for wildlife
- **Trees** reduce stormwater runoff
- **Trees** help improve air quality
- **Trees** help reduce energy and infrastructure costs
- **Trees** add property value to our homes and businesses
- **Trees** can reduce crime build stronger communities



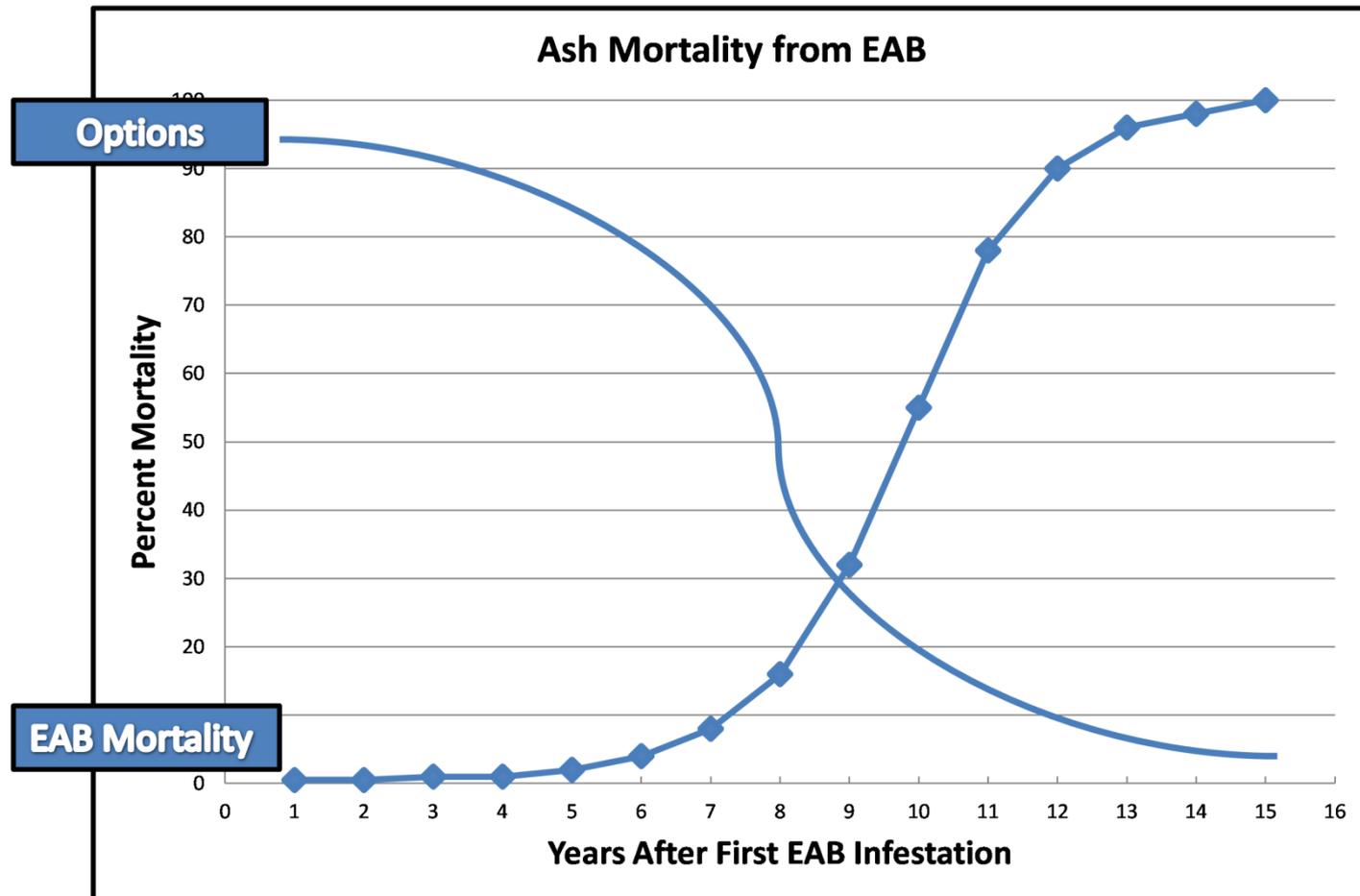
What we're faced with...



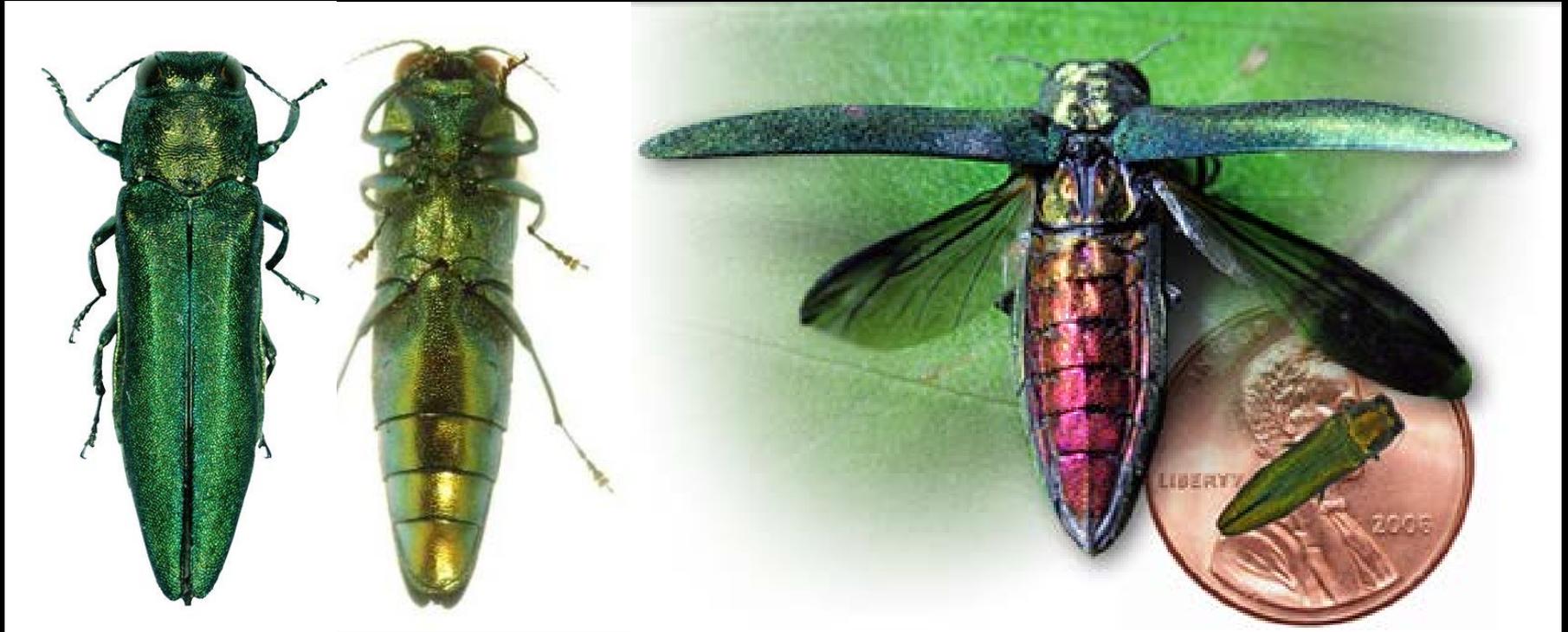
Toledo, Ohio Before and After

It's time to act

An Inverse Relationship



EAB Adult



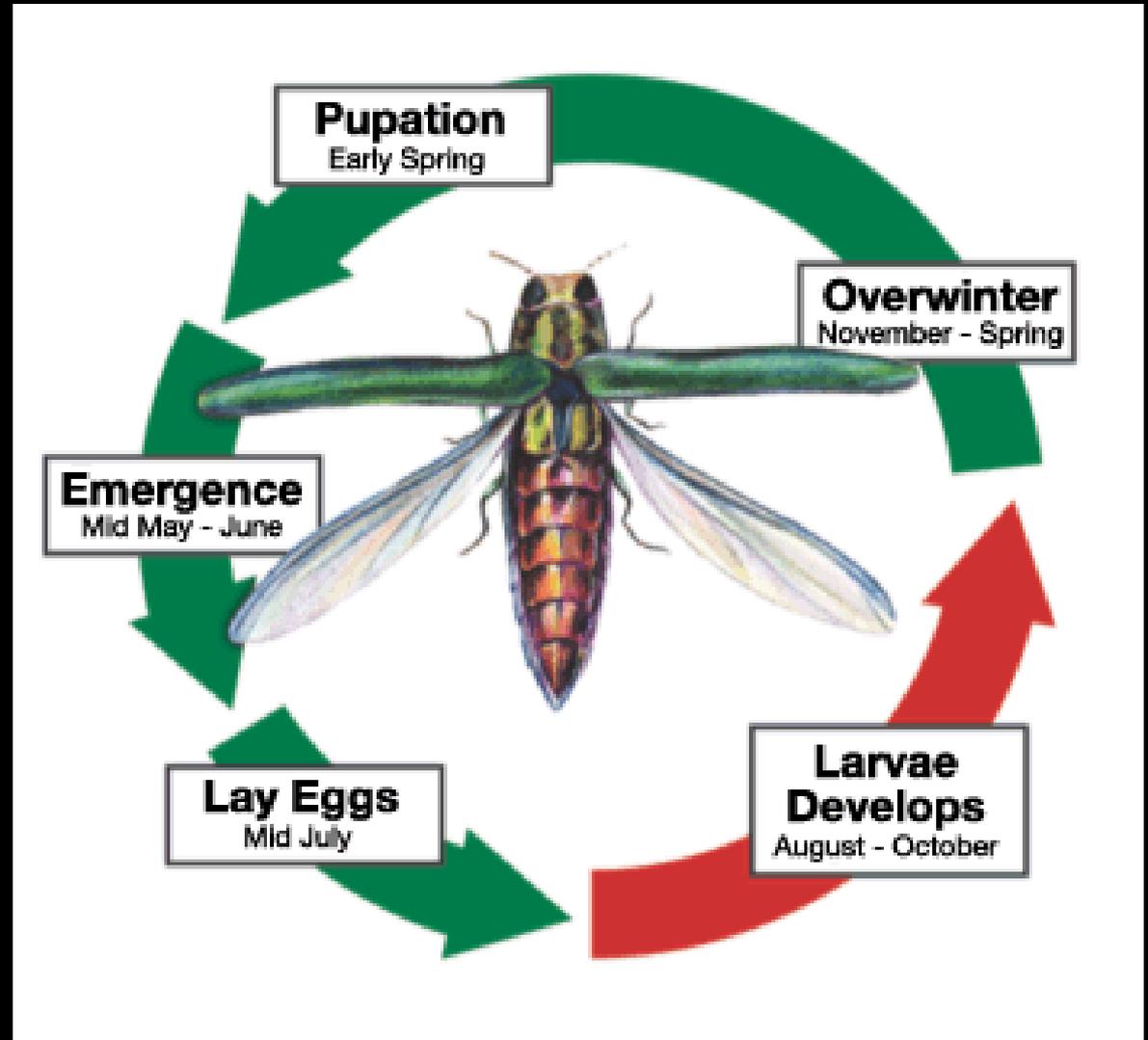
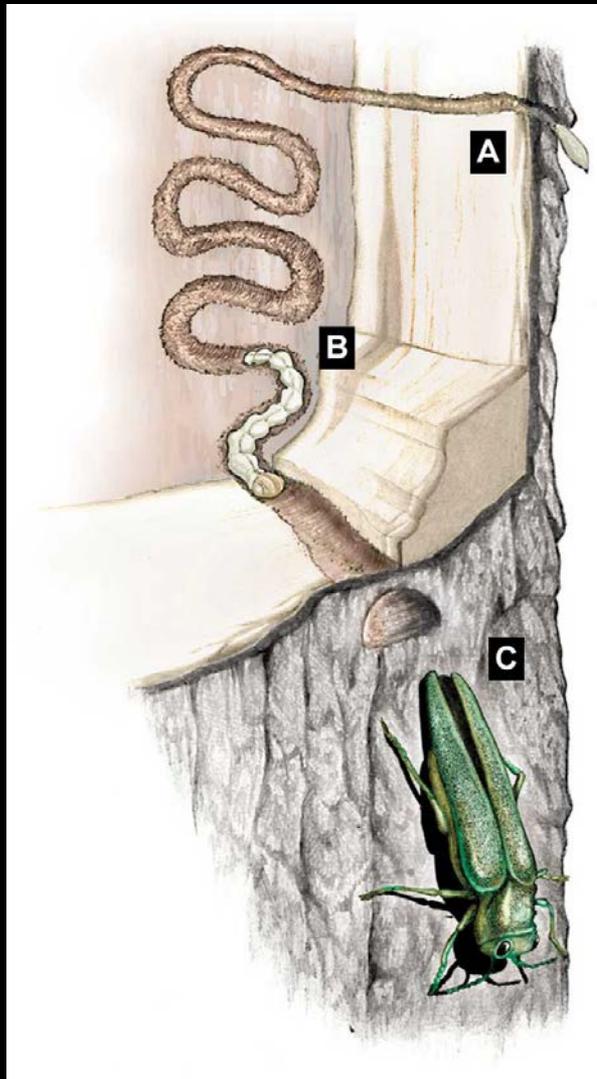
- Metallic green adult
- ½ inch long
- Lay 65-90 eggs in lifetime
- Fly short distances 0.5 – 4.0 miles

EAB Larva



UGA1460071

EAB Life Cycle – 1 year



Other Green Bugs

Emerald Ash Borer Look-Alikes



Emerald Ash Borer



Honeysuckle Flatheaded Borer



Honeylocust Flatheaded Borer



Flatheaded Appletree Borer



Golden Flatheaded Borer



Poplar Flatheaded Borer



Click Beetle



Dogbane Leaf Beetle



Sixspotted Tiger Beetle



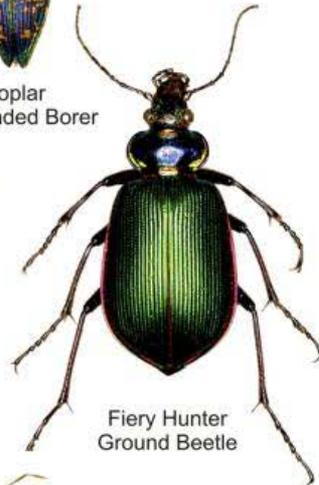
Green Ground Beetle



Green Ground Beetle



Blue-Green Ground Beetle



Fiery Hunter Ground Beetle



Katydid



All insects are at the same scale.



Green June Beetle



"Rainbow Scarab" Dung Beetle



Japanese Beetle



Green Stink Bug



Green Leafhopper



Green Halictid Bee



Green Bottle Fly

EAB Affects Only Ash Trees



Troy Kimoto, Canadian Food Inspection Agency

What is an Ash Tree?



Symptoms: Canopy Dieback



Symptoms: Epicormic Shoots



Symptoms: Trunk Bark Splitting



EAB



Frost Cracking – NOT EAB

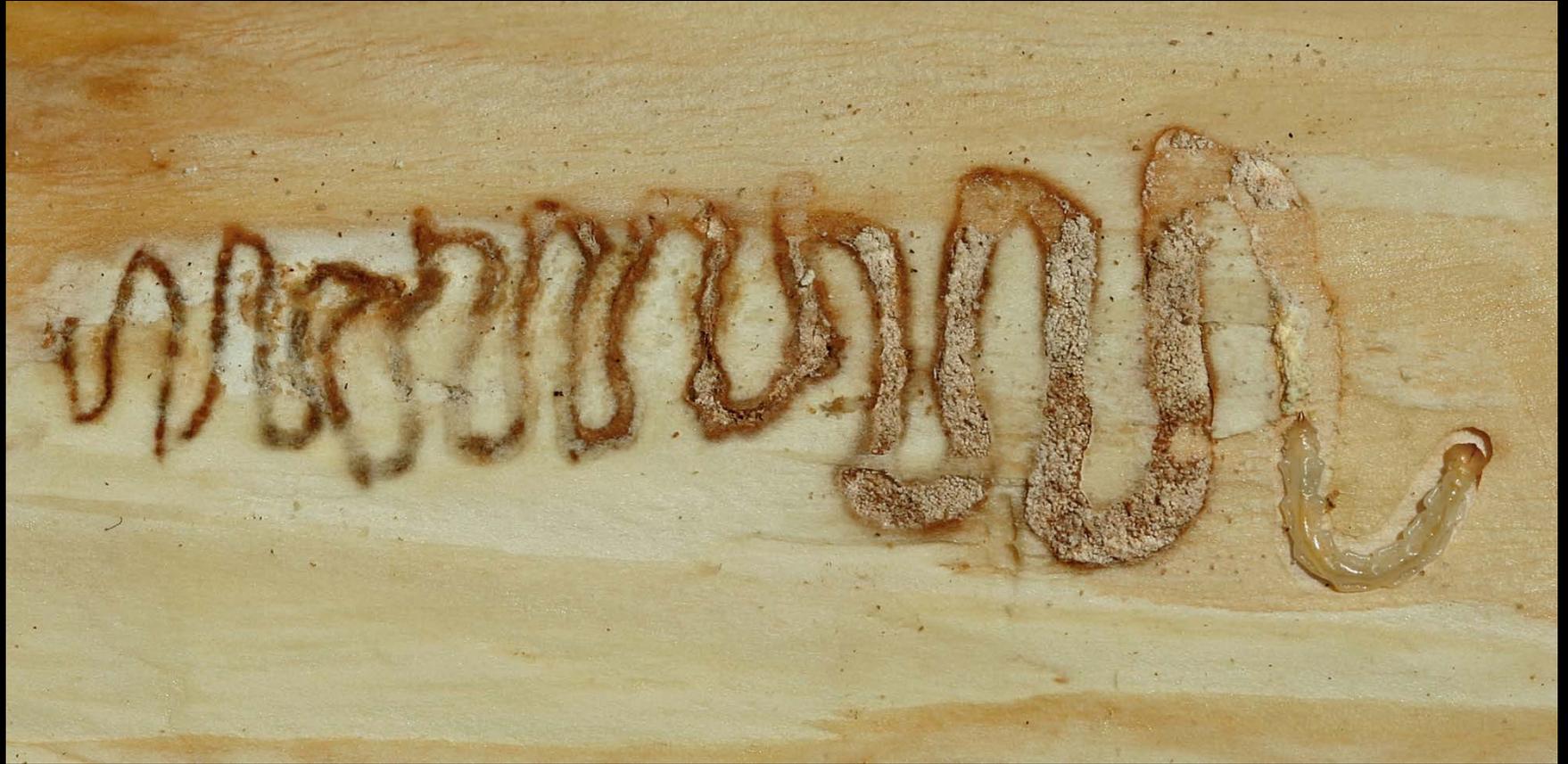
Symptoms: Woodpecker Damage



Symptoms: D-shaped Exit Hole



S-shaped Tunnels



S-shaped Tunnels



What Are Your Options?

1. Remove the ash tree now and **plant** a new tree.
2. Remove the ash tree after it becomes infested and **plant** a new tree .
3. **Plant** a new tree & treat existing ash until new tree becomes established.
4. **Plant** a new tree and let the existing ash die from infestation.
5. Treat the ash tree for life.

If You Have an Ash Tree with Symptoms



Cut it down!

If You Have a Young Ash Tree ...



Cut it down!

If Your Ash Tree is Generally Unhealthy



Cut it down!

If your ash tree is infected...

Cut it down!



If You Have an Unsightly Ash Tree ...



Cut it down!

If Your Ash Tree is in a Bad Location &/Or Bad Condition...



Cut it down!

Again...

Cut it down!



Treatment Considerations



- Trees should be healthy.
- It is an expense to treat for the life of the tree.
- Healthy mature trees provide a multitude of financial benefits in their lifetime.

Treatment Considerations



- How does the tree contribute to the landscape?
- Are there other ash trees around you?
- Are you within 15 miles of an infestation? – YES!

Treatment Options



DIY



Professional Arborist

Treatment by Homeowners



- Imidacloprid
 - Soil Drench
 - Annual Treatment
 - Not recommended for trees > 12" DBH



- Dinotefuran
 - Granular (Soil application)
 - Annual Treatment

The City of Leawood does not recommend or endorse any specific product or product manufacturer. This content is for informational purposes only.

Treatment by Homeowners

- Imidacloprid & dinotefuran are both neonicotinoid insecticides
- Neonicotinoids have been linked to bee colony collapse and adverse effects to butterflies and other beneficial insects
- Do not apply near flowering plants.
- Only apply 1 X/year

READ THE LABEL!



Treatment by Professionals

- Larger trees (>12-15" diameter at breast height)
- Chemicals labeled for higher application rate
- Different products only available to licensed professionals
- Professionals use advanced injection equipment



Treatment by Professionals

- Emamectin Benzoate ([TREE-age](#))
 - Trunk injected
 - 2 years of protection
 - 99% effective
- Imidicloprid ([Merit](#), [Mallet](#), [Xytect](#))
 - Soil drench or trunk injection
 - Annual treatment
 - Best for trees less than 10" DBH
 - Can be slow to absorb
- Dinotefuran ([Safari](#), [Transtect](#), [Zylam](#))
 - Bark spray or soil application
 - Annual treatment
- Azadirachtin ([TreeAzin](#), [Azasol](#))
 - Organic
 - 2 years of protection



Helpful Questions

A few questions to help you find the right arborist...

- Would you recommend treating my tree?
- What chemical are you recommending and why?
- What is the chemical rate you are recommending and why?
- When can you perform the work?



Want more info

SECOND EDITION

Insecticide Options for Protecting Ash Trees from Emerald Ash Borer

North Central
IPM
Center

Daniel A. Herms,
Deborah G. McCullough,
David R. Smitley,
Clifford S. Sadof,
Whitney Cranshaw

 **THE OHIO STATE UNIVERSITY**
COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

MICHIGAN STATE
UNIVERSITY

PURDUE | **LOCAL FACES**
EXTENSION | *Countless Connections*

Colorado
State
University
Extension

Regardless: Plant now!

Plant the right tree
In the right place
The right way



THE TREE LIST GREAT TREES FOR THE KANSAS CITY REGION

AS RATED BY METROPOLITAN AREA EXPERTS

December 2013 revision

Study by Robert Whitman, ISA, MCP, LEED AP
robert.whitman@guidance.com

ABOUT THIS STUDY:

Kansas City area tree experts were asked to provide numerical opinions (0-5 ratings) for 376 trees in four categories: Landscape Value, Street Tree Value, Cultural Adaptability, and Useful Lifespan. These ratings were averaged to determine the highest rated trees for each category.

PARTICIPANTS:

Michael Dougherty, Tree Management Company (781) 381-8723
Dennis Peltier, Johnson County Extension Agent
Tom Schwaner, MSU Hortensis (913) 864-8208
Alan Bechtelger, Director of Horticulture, Powell Gardens
Chris Cooksey, Green Valley Nursery (913) 554-4693
Rob Haines, Adams, Shale Nursery (913) 823-3810
Dan Simmons, Shale Nursery (913) 827-4601
Mark Young, Country Club Tree Service (816) 333-7220
Chuck Carter, Forester, Missouri Department of Conservation

Kevin Smith, Forester, Johnson County Parks & Recreation (913) 439-2200
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Huey Kates, Consulting Forester (816) 765-4211
Tom McCasland, Forester, Kansas Forest Service
Scott Reber, Lincoln Hall Library
Chip Weisner, MESA, KSU Department of Landscape Architecture
Susan Hertz, Linn's Nursery (913) 897-7010
Robert Whitman, Landscape Architect, guidance.com

In Summary

- EAB is in Kansas City and it's time to act.
- Valuable trees, worth saving, can be.
- Trees must be treated continually.
- Infested trees must be removed by ordinance.

Resources

HOME | CALENDAR | CONTACT US | EMPLOYEES | JOBS

 Growing with Distinction

RESIDENT BUSINESS GOVERNMENT HELP ME TO... SEARCH Entire Site ▼

"How wonderful it is that nobody need wait a single moment before starting to improve the world." - Anne Frank



- All City Committees
- Sustainability Home
- Recycling
- Conservation
- 'Green' Mobility
- Meeting Minutes
- Resources
- Emerald Ash Borer
- Contact Us



Emerald Ash Borer (EAB) Has Arrived in Kansas City!

[Sustainability Home](#) | [Recycling](#) | [Conservation](#) | ['Green' Mobility](#)
[Meeting Minutes](#) | [Resources](#) | [Emerald Ash Borer](#) | [Contact Us](#)

Everything you wanted to know but were afraid to ask!

How do I identify an Ash tree, what is emerald ash borer, and what should I do?

[Emerald Ash Borer Management Guide](#)

What's the latest news about EAB, where has it been spotted and more?

<http://www.emeraldashborer.info/>

The Who, Why, Where of hiring and Arborist.

<http://www.treesaregood.org/>

Now What? Developing a Plan. Treat? Or Cut and Replant?

Decision Equation

CoSt to Treat X Number of Years of Homeownership + Benefit\$
vs.
CoSt to Cut down Ash Tree + CoSt to Replant a Tree + Forgone Benefit\$

[Calculator - Treatment](#) - save to your drive before using

[Calculator - Benefits](#)

[Calculator - Tree Removal and Planting](#)

[Sample Inventory Sheet](#)

[Sample RFP for contracting treatment services](#)

Who's doing what?

[City of Leawood's EAB Presentation and Plan](#)

[Hunter's Ridge Homes Association Case Study - Jim Decker](#)

www.leawood.org/eab