



## Purdue Master Gardener Program: An IDNR Update

IDNR Division of Entomology  
and Plant Pathology

## Nursery Grower/ Dealer License

Indiana Department of Natural Resources  
Division of Entomology and Plant Pathology  
812 N. Washington St., Room 9020  
Indianapolis, Indiana 46204 (317) 232-4120

**Nursery Dealer**

Certificate Number	Original Issue Date (if known)	Expire Date
ND0000000		12/31/2018

XXXXX


BE IT KNOWN, that the person or firm named above has complied with the requirements of the law and is hereby licensed to buy and sell stock as a dealer. All nursery stock bought or sold by said dealer has been inspected by an authorized state or government inspector and found to be apparently free from destructively injurious insects and plant diseases. This license expires 12/31/2018, unless revoked for cause, subject to the provisions and penalties of IC 14-24-7.

*Megan Abraham*  
Megan Abraham  
State Entomologist

## Nursery Stock

"Nursery stock" means botanically classified hardy perennial or biennial trees, shrubs, vines, and plants, fruit pits, and other plants or plant parts capable of propagation.

The term does not include corms, tubers, field vegetables, or flower seeds.  
**(312 IAC 18-1-11)**




### Nursery Grower:

A person or business that grows nursery stock to make a profit.

### Nursery dealer:

A person must obtain a dealer's license from the division under IC 14-24-7-1 before selling or soliciting an order for nursery stock or otherwise conducting the business of a dealer.  
(Grower, retailer, landscaper, grocery)  
**(312 IAC 18-4-3)**



## Who needs a license?

Grower	Dealer
• 300 acre business	• Grower
• 1 acre in backyard	• Box store
• Online sales	• Small family business
• High school with greenhouse planning a plant sale	• Landscaper
	• Online retail sales
	• Grocery (affiliate)
	• Fundraising group
	• Not for profit

## Dealer License Application

<https://www.in.gov/dnr/entomolo/2895.htm>



## FAQ

- Address vs Mailing Address
- Grower vs Dealer
- Plan to grow in future
- Nature of business
- Why do you want a source list?
- What if I don't know all my sources yet?
- Do I have to give my email address who will be able to see it?
- How long will it take to process?
- Do I need to get a license in surrounding states?
- If I don't have nursery stock on my property why do I need a license?

## Grower License Application

<https://www.in.gov/dnr/entomolo/2895.htm>

## What happens if you don't have the proper license?

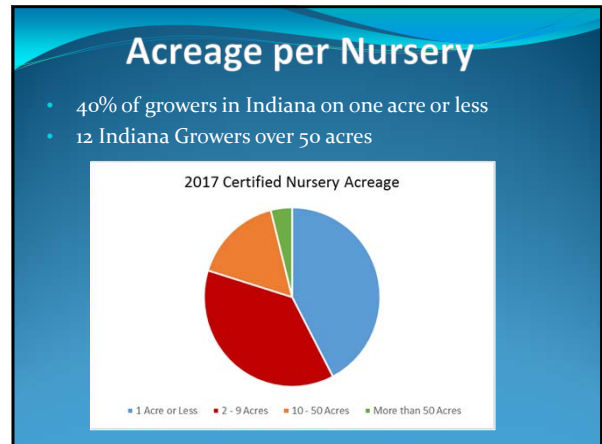
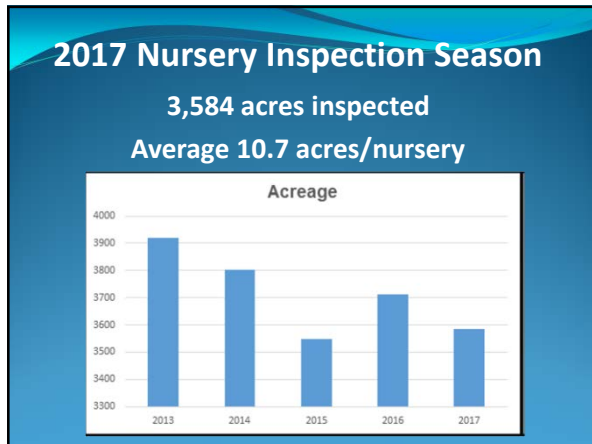
## Stop Sale/ Rejection Notice

## Violation Notice = \$500/day

## 2017 Nursery Inspection Season

345 nursery growers inspected

Year	Nurseries Inspected
2012	360
2013	320
2014	365
2015	365
2016	345
2017	345



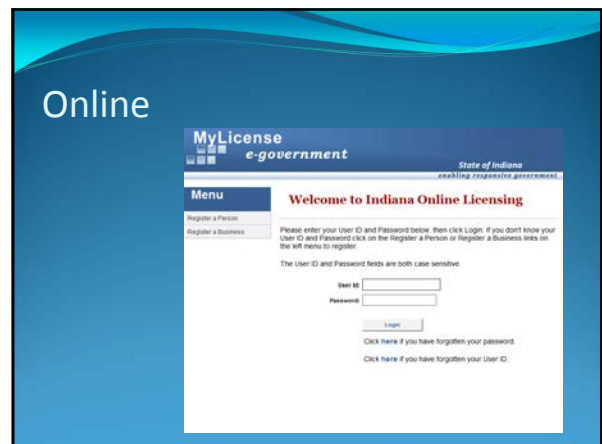
- ### What's going on?
- Nursery licenses being obtained for hobbyists
  - Increase in internet sales and farmers markets
  - Specialists growing orchids, daylilies, hostas to ship
  - Shift in the source of material to distribution centers
  - Landscapers purchasing wholesale instead of growing themselves
  - Economy
    - Decrease in new construction
    - Decrease in disposable income
    - Increase in plant sales as second/ supplemental income source

### License Renewal

Nursery grower and nursery dealer licenses are valid from January 1 to December 31

Can be renewed online OR by mail.

<https://mylicense.in.gov/eGov/Login.aspx?ReturnUrl=%2fegov%2f>



By mail

2018 Administrative Review  
Nursery Stock Certificate of Inspection  
402 W. Washington St., Room 1200  
Bloomington, IN 47404

June 5, 2018

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Phone, FAX \_\_\_\_\_

Inspection Fee: \$35.00  
DNR License Number: 00000000  
DNR License Type: Nursery  
DNR License Area: \_\_\_\_\_  
DNR License Class: 00000000  
DNR License Status: Active

DNR License Number: 00000000  
DNR License Type: Nursery  
DNR License Area: \_\_\_\_\_  
DNR License Class: 00000000  
DNR License Status: Active

Signature of Applicant/Partner Company Official \_\_\_\_\_

## Nursery Inspections

- Annual for nursery growers and voluntary growers
- Every other year for nursery dealers with nursery stock on premises
- What are they looking for?
  - ❖ Quarantined Pests and Pathogens
  - ❖ Insect Damage
  - ❖ Fungus
  - ❖ Bacteria
  - ❖ Virus

## 2017 Most Frequent Reported Pests

Northern Region*		Southern Region*	
Insects	Diseases/Abiotic	Insects	Diseases/Abiotic
Mites	Leafspots	Bagworm	Mildew
Aphids	Mildew	Japanese Beetle	Leafspots
Japanese Beetle	Tar Spot	Mites	Rust
Scale	Needle Cast	Aphids	Apple Scab
Leafhopper	Apple Scab	Scale	Needle Cast
Thrips	Rusts	Leafhopper	Cankers
White Pine Weevil	Anthraxnose	Flea Beetle	Herbicide Injury
Bagworm	Nutrient Deficiency	Whitefly	Botrytis
Lace Bug	Abiotic Injury	Lace Bug	Nutrient Deficiency
Sawfly	Botrytis	Galls	Anthraxnose

\* The northern half of Indiana is in Hardiness Zone 5 while the southern is in Hardiness Zone 6.

## Pests and Pathogens

- How to control?
- Should it be controlled?
- When do they emerge?
- What kind of damage they can do?
- Economic threshold

The graph plots Population Density on the y-axis against Time on the x-axis. A blue line represents the pest population density, which fluctuates over time. Two horizontal red lines are drawn across the graph: the upper line is labeled 'Economic Injury Level' and the lower line is labeled 'Economic Threshold'. The population density line crosses the Economic Threshold line multiple times, and crosses the Economic Injury Level line once.

## Identification = Solution

PURDUE EXTENSION

DNR DEPP@dnr.in.gov

## IDNR DEPP Weekly Review

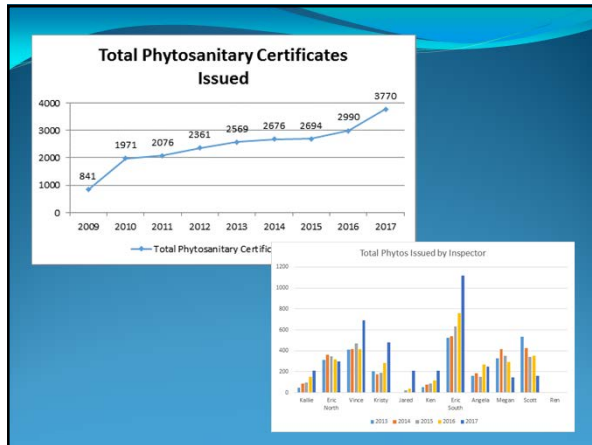
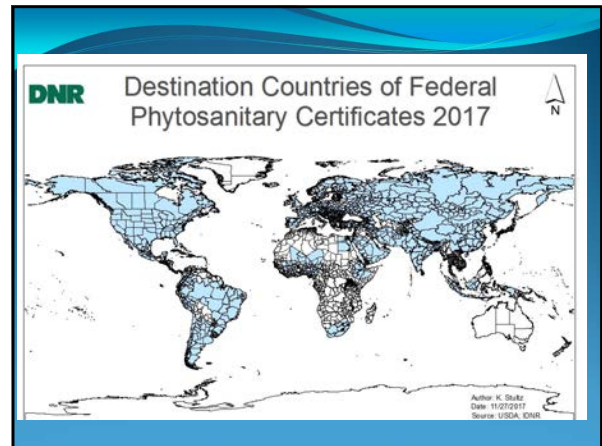
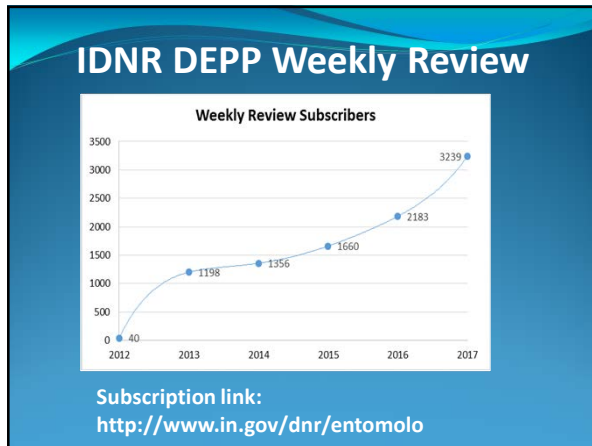
### Weekly Review for July 5, 2017

Indiana Department of Natural Resources  
Division of Entomology & Plant Pathology  
Phone: (317) 234-4120  
DNR Website  
Inspector Territories

This optional report by the Division of Entomology and Plant Pathology is designed to update the monthly and bi-monthly reports of insect and disease pests the Division has been monitoring for a week to week basis and as a way to give a "heads up" of things to be on the lookout for.

Links can be found at the bottom of the page to manage your subscription for this list. Comments and questions about this report are welcome and can be sent to [Entomology@dnr.in.gov](mailto:Entomology@dnr.in.gov) to your respective inspector.

Subscription link:  
<http://www.in.gov/dnr/entomolo>



### Why are we conducting these inspections?

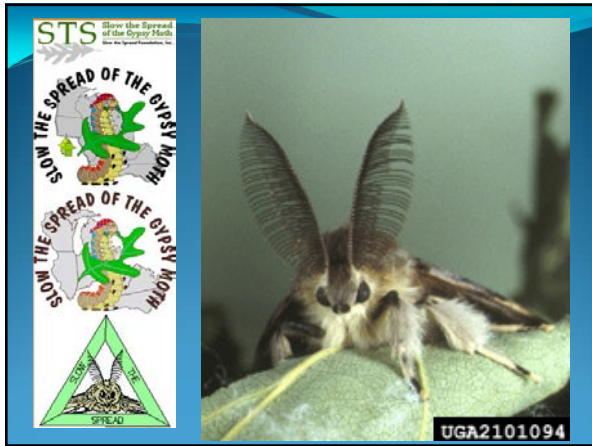
- Facilitate Trade
- Protect cultural and natural resources
- Enhance the quality and appreciation of the environment
- Mission of the Division of Entomology and Plant Pathology

### Pathway for new pests to enter

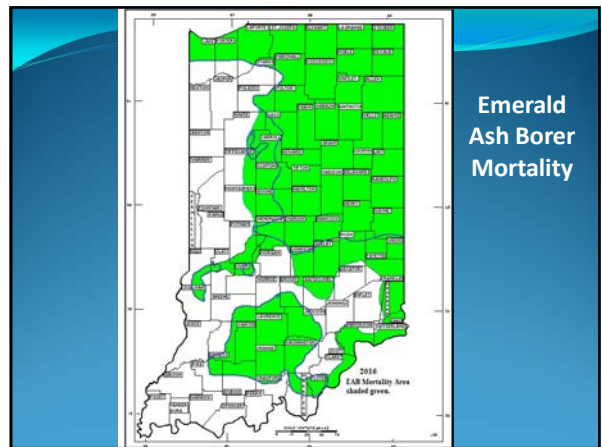
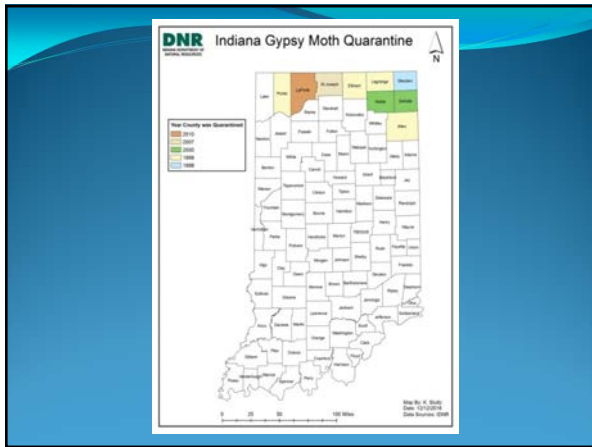
- Accidental release (gypsy moth)
- Intentional release/ biocontrol (cane toad in Australia)
- Solid wood packaging material hitch-hiker (EAB/ALB)
- Movement of raw materials (TCD)
- Erosion control (kudzu)
- Pet trade (Elodea / Giant African Snail)
- Shipping Nursery plants from out of state (P. ramorum)
- Escape from ornamental garden (wintercreeper)

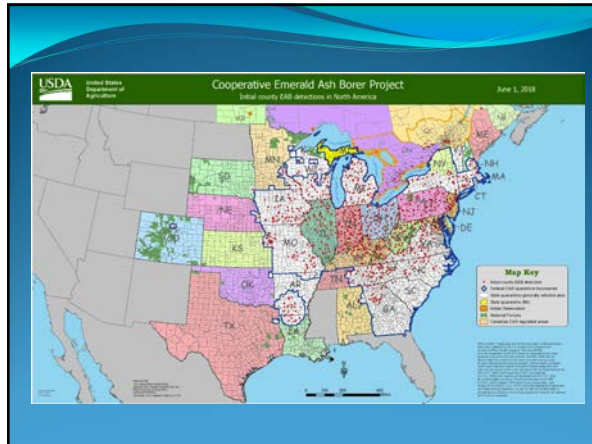
### Invasive Pest Species in Indiana

- Gypsy Moth
- Emerald Ash Borer
- Kudzu
- Surveying for:
  - Asian Longhorned beetle
  - Boxwood Blight
  - Sudden Oak Death
  - Hemlock Woolly Adelgid
  - Thousand canker disease
  - Spotted Lantern Fly



Success  
Gypsy Moth has not moved below U.S. Hwy 30 in 30+ years





## EAB Parasitoid Release



*Oobius agrili* is a minute egg parasitoid about the same size as an EAB egg (approximately 1 mm)

*Tetrastichus planipennis* is a small wasp that can locate EAB larvae under the surface of the bark of ash trees.

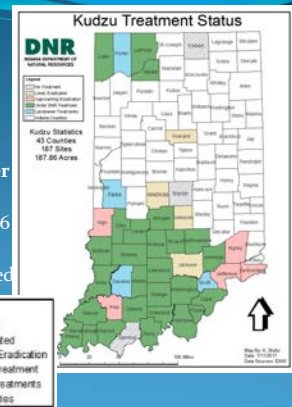
*Spathius galinae* and *Spathius agrilli* lay their eggs ON the larvae and not IN them.



Kudzu in Indiana

## Kudzu 2017

- 66 sites treated in 26 counties
- 72.52 acres treated
- 70% of treated kudzu sites are at 90% suppression after four years of treatment
- 187 known sites totaling 187.86 acres in 43 counties.
- Eight new sites were confirmed in 2017



## Asian Longhorned Beetle



Asian Longhorned Beetle





- 510 sold by the scouts
- 343 returned collected and destroyed (1220 pounds)
- 15 bagged by customer for garbage company to pick up
- 227 addresses and locations of wreath receivers identified for survey next summer

## Sudden Oak Death Survey 2017

**Rhododendron**  
**Kalmia**  
**Camellia**  
**Pieris**  
**Viburnum**

- 31 locations surveyed in 18 counties
- *Phytophthora* spp. found in 108 of 403 samples
- None of 108 were *P. ramorum* fungus

APHIS HOST LIST:  
[http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/pram/downloads/pdf\\_files/usdaprlst.pdf](http://www.aphis.usda.gov/plant_health/plant_pest_info/pram/downloads/pdf_files/usdaprlst.pdf)

Indiana Detections  
Porter County 2006  
St. Joseph County 2012

### 2017 PPOL/DNR *P. ramorum* Nursery Survey Collection Counties

***P. ramorum* Indiana Nursery Survey**

- ▲ 2004
- ▲ 2005
- ▲ 2006
- ▲ 2007
- ▲ 2008
- ▲ 2009
- ▲ 2010
- ▲ 2011
- ▲ 2012
- ▲ 2013
- ▲ 2014
- ▲ 2015
- ▲ 2016
- ▲ 2017

▲ indicates counties that were surveyed for *P. ramorum* in 2017. Counties with a shaded area in that year indicate a positive find in that year. Surveys were performed as per 502 protocol. Other counties surveyed in 2017 through the 502 Survey include Adams, Elkhart, Hendricks, Johnson, Kosciusko, and Warren.

## Hemlock Woolly Adelgid (HWA)

## Hemlock Woolly Adelgid Infestation

Legend:

- Red: Infestation Confirmed
- Yellow: Suspected Infestation (Year 10-2017)
- Orange: Suspected Infestation (Year 2011-2017)
- Green: Infestation Confirmed (Year 2011-2017)
- Blue: Suspected Infestation (Year 2011-2017)
- Grey: Suspected Infestation (Year 2011-2017)

## Hemlock Woolly Adelgid

**Hemlock Woolly Adelgid Delimit Survey**  
LaPorte County, Michigan Shores


Delimit Survey Area

### Hemlock Stands in Indiana



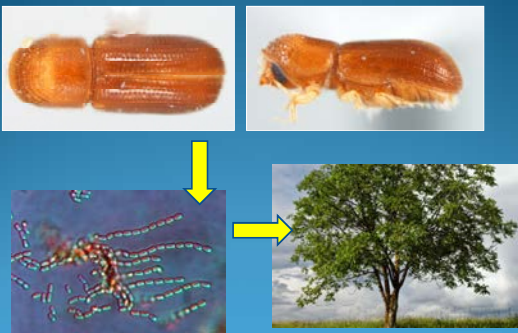
A map of Indiana showing county boundaries with red dots indicating the locations of hemlock stands. To the right, a photograph shows a person in a blue shirt standing in a forest, holding a camera up to take a picture of a tree.

### Thousand Cankers Disease of Black Walnut



A close-up photograph of a tree trunk showing characteristic diamond-shaped cankers. To the right, a photograph shows a black walnut tree in a park-like setting.

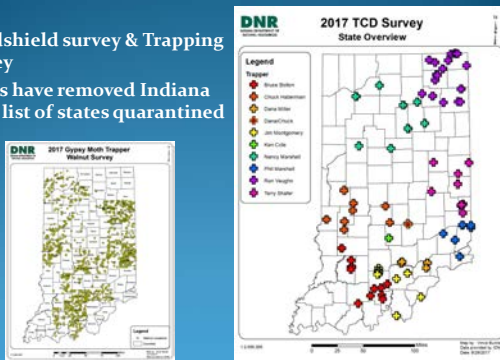
### Walnut Twig Beetle in Indiana



Two close-up photographs of a walnut twig beetle. Below them, a microscopic image shows the beetle's eggs on a twig. A yellow arrow points from the beetle to the eggs, and another yellow arrow points from the eggs to a photograph of a healthy walnut tree.


### Thousand Cankers Disease

- Windshield survey & Trapping survey
- States have removed Indiana from list of states quarantined



Two maps from the Indiana Department of Natural Resources (DNR). The left map is titled '2017 Gypsy Moth Trapper Walnut Survey' and shows a grid of survey locations across Indiana. The right map is titled '2017 TCD Survey State Overview' and shows the state of Indiana with various colored dots representing different survey locations. A legend on the right lists the names of the trappers.

### Distribution of Thousand Cankers Disease as of August 1, 2017.




A map of the United States showing the distribution of Thousand Cankers Disease (TCD) as of August 1, 2017. States with orange shading indicate where TCD is confirmed, while states with grey shading indicate where a quarantine has been issued. The source is cited as www.thousandcankers.com.

### SPOTTED LANTERNFLY AND THE COMMUNITY RESPONSE

John Baker, Spotted Lanternfly Program Coordinator  
pennsylvania DEPARTMENT OF AGRICULTURE

THANK YOU  
[http://www.agriculture.pa.gov/Protect/PlantIndustry/spotted\\_lanternfly](http://www.agriculture.pa.gov/Protect/PlantIndustry/spotted_lanternfly)




A photograph of a spotted lanternfly (Lycophotia spumalis) with its wings spread, showing characteristic black spots on a light-colored background.



**One Generation Per Year**

Spotted Lanternfly Host List		
Tree of Heaven	Apples	Plums
Cherries	Peaches	Nectarines
Apricots	Almonds	Pine
Oak	Walnut	Poplar
Grapes	Willow	

<http://ento.psu.edu/extension/fruit/pest-ale-spotted-lanternfly>



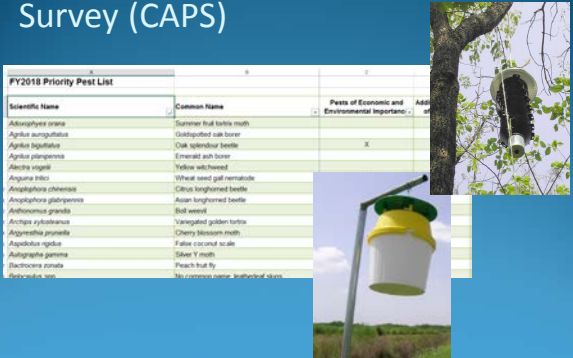
## National Honey Bee Survey



Click to View APHIS National Honey Bee Survey Data

The National Honey Bee Survey, in conjunction with the Bee Informed Partnership (BIP) and the USDA Animal Plant Health Inspection Service (APHIS), is a comprehensive examination of colony health throughout aparies in the United States. The NHBSS began in 2009 to address the emerging concerns about the debilitating health of

## Cooperative Agricultural Pest Survey (CAPS)



Scientific Name	Common Name	Pests of Economic and Environmental Importance
<i>Acanthosybra orana</i>	Summer fruit tortrix moth	
<i>Aglyptus sanguiflavus</i>	Goldspotted oak borer	
<i>Aglyptus digitatus</i>	Oak splintered beetle	X
<i>Aglyptus planipennis</i>	Emerald ash borer	
<i>Albicis nigritis</i>	Yellow silkmoths	
<i>Aquaria trilio</i>	Wheat seed gall nematode	
<i>Asaphidopora abietis</i>	Citrus longhorned beetle	
<i>Asaphidopora glabripennis</i>	Asian longhorned beetle	
<i>Antrenomus grandis</i>	Bull weevil	
<i>Archips xylophagus</i>	Variagated golden tortrix	
<i>Argemone parvella</i>	Cherry blossom moth	
<i>Aspidobius agilis</i>	False cocoon scale	
<i>Aulagasta gamma</i>	Silver Y moth	
<i>Bactrocera prunella</i>	Peach fruit fly	
<i>Borocampa sp.</i>	Black spruce sawfly	

## Brown Marmorated Stink Bug



- Collected in Allentown, PA in 1998
- Agricultural pest
- Nuisance pest attracted to outside of houses
- Emerge in spring (late April)
- Deposit eggs through August
- ID with bands of white on antennae

## Red Imported Fire Ant

Liriope Big Blue Liriope –Louisiana  
Black Gum -Nyssa sylvatica – McMinnville TN  
Other plant material from Ohio

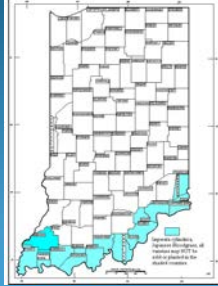


## Red Imported Fire Ant





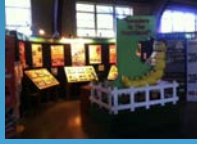



## Japanese Blood Grass Red Baron *Imperata cylindrica*



- Requires a USDA Permit
- Requires an Indiana Permit
- Can not sell plants into the counties along Ohio River.

## Education/ Outreach

## Forest Pest Outreach Survey Program (FPOSP)



## Spot anything new/ different contact the IDNR

- (866) NO EXOTIC ((866) 663-9684)
- Email DEPP@DNR.IN.GOV
- EDRR/ REPORT IN website or App




## Aquatic Invasives

312 IAC 18-3-23

### Prohibited invasive aquatic plants

- Aquatic invasive plant rule went into effect in fall 2012
- General acceptance by retail industry
- Few surprises in private gardens & Grocery stores






Brazilian waterweed



Yellow flag iris



Prohibited Aquatic Invasive plants in trade

Parrot feather



Chinese water spinach



Narrow leaf cattail




amazon

INTRODUCING AMAZON PLANTS STORE  
SUCCULENTS, SHRUBS, ANNUALS, PERENNIALS AND MANY MORE



Jun 4 BAMBOO TIME TO PLANT YOUR







300 seeds Water Spinach Thai Pa...  
GrownYourOwnGarden  
\$6.99

### Terrestrial Invasive Plants

- Currently the state of Indiana does not have a Terrestrial Plant rule
- Several terrestrial invasive species are regulated (kudzu, Lythrum, Rosa multiflora)
- Other species currently in trade are/can become invasive

### Terrestrial Invasive Plants

- Prohibited Species
- Prohibited Species would be unable to be sold, grown, gifted, bartered, exchanged, or distributed in any life stage.

### Prohibited Species

- (1) *Achyranthes japonica* (Japanese chaff flower).
- (2) *Ailanthus altissima* (tree of heaven).
- (3) *Alliaria petiolata* (garlic mustard).
- (4) *Alnus glutinosa* (black alder).
- (5) *Artemisia vulgaris* (ragwort).
- (6) *Arthraxon hispidus* (small carpgrass).
- (7) *Berberis thunbergii* (Japanese barberry).
- (8) *Carduus acanthoides* (spiny plumelless thistle).
- (9) *Carduus nutans* (musk thistle).
- (10) *Celastrus orbiculatus* (Asian bittersweet).
- (11) *Centaurea stoebe* (spotted knapweed).
- (12) *Cirsium vulgare* (bull thistle).
- (13) *Conium maculatum* (poison hemlock).
- (14) *Convolvulus arvensis* (field bindweed).
- (15) *Coronilla varia* (crown vetch).
- (16) *Dioscorea polystachya* (oppositifolia) (Chinese yam).
- (17) *Dipsacus fullonum* (common teasel).
- (18) *Dipsacus laciniatus* (cut-leaved teasel).
- (19) *Elaeagnus umbellata* (autumn olive).
- (20) *Euonymus fortunei* (wintercreeper).
- (21) *Euphorbia esula* (leafy spurge).
- (22) *Frangula alnus* (glossy buckthorn).
- (23) *Hesperis matronalis* (dame's rocket).
- (24) *Humulus japonicus* (Japanese hops).
- (25) *Lepidium latifolium* (pepperweed).
- (26) *Lespedeza cuneata* (sericea lespedeza).
- (27) *Ligustrum obtusifolium* (blunt leaved privet).
- (28) *Lonicera japonica* (Japanese honeysuckle).
- (29) *Lonicera maackii* (Amur honeysuckle).
- (30) *Lonicera morrowii* (Morrow's honeysuckle).
- (31) *Lonicera tatarica* (Tatarian honeysuckle).
- (32) *Lonicera x bella* (Bell's honeysuckle).
- (33) *Microstegium vimineum* (Japanese stiltgrass).
- (34) *Morus alba* (white mulberry).
- (35) *Phalaris arundinacea* (reed canarygrass).
- (36) *Phellodendron amurense* (Amur cork tree).
- (37) *Phragmites australis* subspecies *australis* (common reed).
- (38) *Polygonum perfoliatum* (mile-a-minute vine).
- (39) *Reynoutria japonica* (Japanese knotweed).
- (40) *Reynoutria sachalinensis* (giant knotweed).
- (41) *Reynoutria x bohemica* (Bohemian knotweed).
- (42) *Rhamnus cathartica* (common buckthorn).
- (43) *Vincetoxicum nigrum* (black swallow-wort).
- (44) *Vincetoxicum rossicum* (pale swallow-wort).



## Terrestrial Invasive Plants

- Draft rule will NOT include Callery Pear or Norway Maple.
- Present draft rule to DNR Commission in July for Preliminary Adoption

## Terrestrial Invasive Plants

- Steps to make the proposed rule into state administrative code:
  - Approval by the DNR executive office & INLA board
  - Approval by the Office of Management and Budget
  - Approval by the Natural Resource Commission Advisory Council
  - Preliminary adoption by the Natural Resources Commission
  - Comments solicited from the public
  - Public Hearings held on proposal
  - Final Approval by the Natural Resources Commission
  - Approval by the Attorney General's Office
  - Approval by the Governor
  - Published by Legislative Services Agency; effective 30 days later
  
- Adoption of any new rule can take up to a year

## Terrestrial Invasive Plants

During the rule adoption process:

- Educate consumers on the tendency of these plants to become invasive.
- Alter stock inventory and make changes to what is purchased for the coming year.
- Research alternatives to these plants

**DNR** Entomology and Plant Pathology **DNR**  
Staff and Compliance Officer Territories

**Division Staff**

- Debra Anderson - District Director in Charge  
810-914-1165, ext. 317-102-5666  
anderson@dnr.in.gov
- Adrienne Phipps - Chief Deputy Assistant  
810-914-1165, ext. 317-102-5666  
anderson@dnr.in.gov
- Kim Nelson - Compliance Assistant  
810-914-1165, ext. 317-102-5666  
anderson@dnr.in.gov

**Marking Inspectors & Compliance Officers**

- Karin Brontiger - Lafayette Field Office  
219-811-1016, karinb@dnr.in.gov
- Eric Brontiger - Rochester Field Office  
812-431-1125, ericb@dnr.in.gov
- Chris Burke - Fort Wayne Field Office  
360-452-8952, chrisb@dnr.in.gov
- Pat Hall - Indianapolis Central Office  
463-0204-1165, pat@dnr.in.gov
- Andy Sauer - Evansville Field Office  
780-714-0228, andys@dnr.in.gov
- Ken Cook - Bloomington Field Office  
810-322-7248, ken@dnr.in.gov
- John Sockelley - Terre Haute Office  
317-247-0504, johns@dnr.in.gov
- Rob Bissel - Hammond Field Office  
612-798-4217, rob@dnr.in.gov
- Angela Hunt - Fort Collins Field Office  
612-848-8291, angela@dnr.in.gov

## SICIM + NRCS = CISMA

(Cooperative Invasive Species Management Areas)

County/County Equivalent	SICIM Name	Website	Partner Name	Contact Email
Adams County and Taylor	Adams Taylor Cooperative Weed Management Area (SICIM)		Ken Wilson	kwilson@adamscounty.in.gov
Champaign County	Champaign County Cooperative Weed Management Area		Ken Wilson	kwilson@champaigncounty.in.gov
DeWitt County	DeWitt County Cooperative Weed Management Area		Ken Wilson	kwilson@dewittcounty.in.gov
Elkhart County	Elkhart County Cooperative Weed Management Area		Ken Wilson	kwilson@elkhartcounty.in.gov
Franklin County	Franklin County Cooperative Weed Management Area		Ken Wilson	kwilson@franklincounty.in.gov
Hamilton County	Hamilton County Cooperative Weed Management Area		Ken Wilson	kwilson@hamiltoncounty.in.gov
Henry County	Henry County Cooperative Weed Management Area		Ken Wilson	kwilson@henrycounty.in.gov
Madison County	Madison County Cooperative Weed Management Area		Ken Wilson	kwilson@madisoncounty.in.gov
Marion County	Marion County Cooperative Weed Management Area		Ken Wilson	kwilson@marioncounty.in.gov
Montgomery County	Montgomery County Cooperative Weed Management Area		Ken Wilson	kwilson@montgomerycounty.in.gov
Wayne County	Wayne County Cooperative Weed Management Area		Ken Wilson	kwilson@waynecounty.in.gov

