Present and Potential Invasive Weeds and Insects in Louisiana

Kudzu bug, Wikipedia.org

Giant Salvinia, LSU

Old World bollworm, Gyorgy Csoka

Rodrigo Diaz, Tad Hardy, Bill Spitzer

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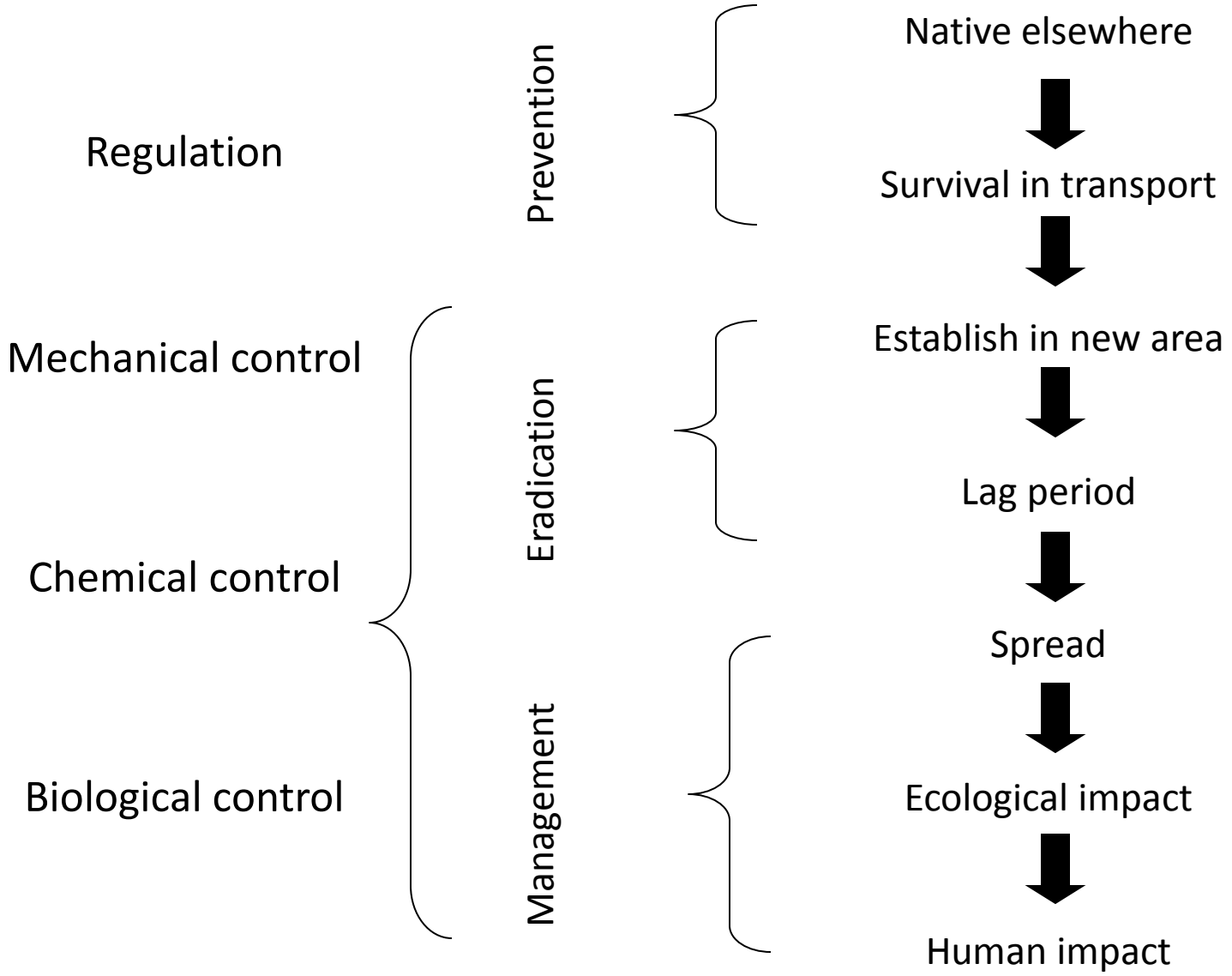
The goal of this talk is to introduce the invasive species program at LSU and raise the importance of present and new pests in Louisiana

Invasive species
LSU research

Present insects
and weeds

Potential insects
and weeds

Invasive species create a major problem to the Louisiana economy



How do exotic species arrive to Louisiana?

Port of New Orleans

Waterways

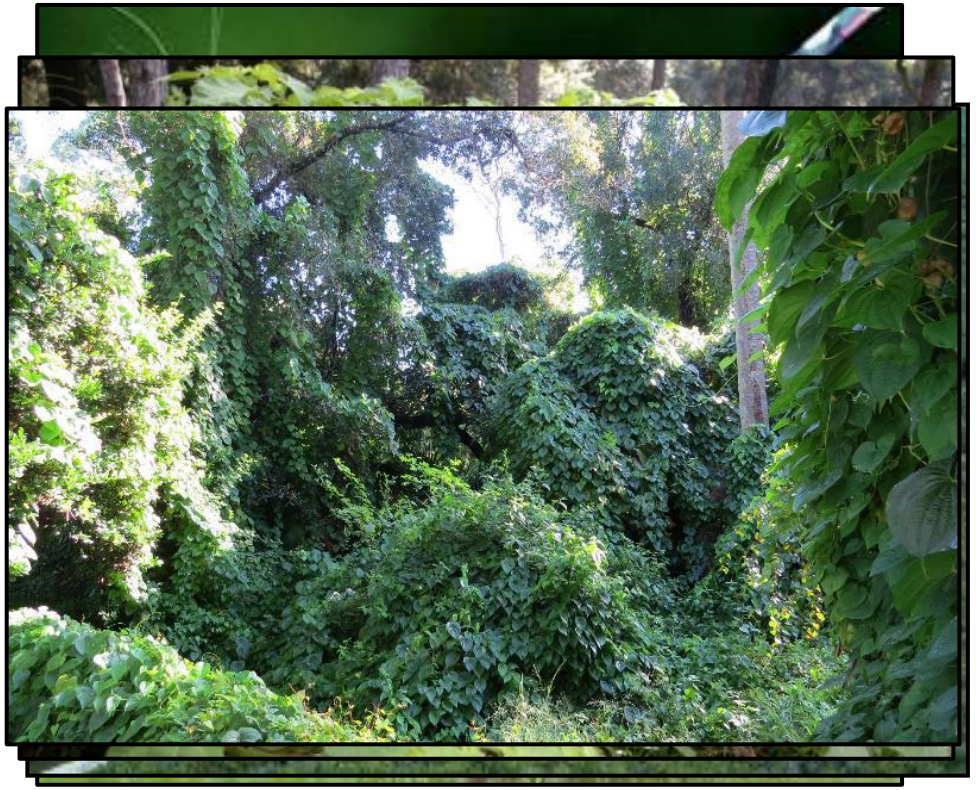
Trade

Animal migration

Crop monoculture

Once established they are difficult to eradicate

Research is necessary to prevent and manage these invasive species



- Join the LSU team working on invasive species
- New transplant from Florida which is paradise for invasive species
- Worked with agencies on biocontrol of weeds

Management of invasive species requires multiple approaches and the cooperation among stakeholders

Insects and weeds already in Louisiana

Several agencies are involved in the monitoring of invasive pests

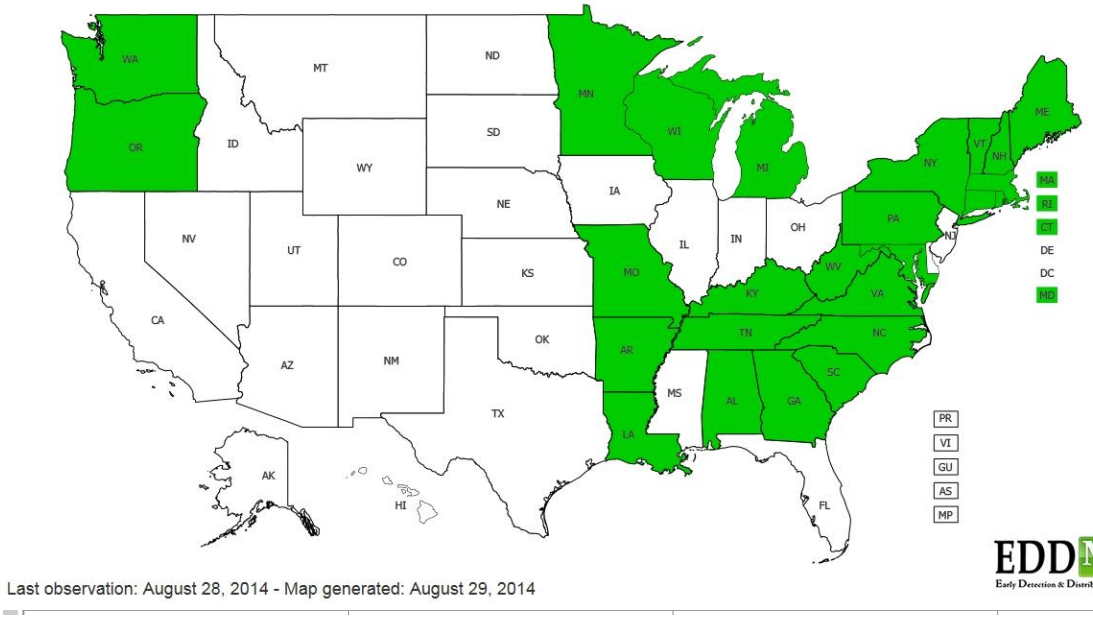
LA Department of Agriculture and Forestry
- Plant pest quarantine programs
- http://www.ldaf.state.la.us/

Tad Hardy

USDA-APHIS, Bill Spitzer *Drosophila suzukii*
- CAPS

LSU faculty

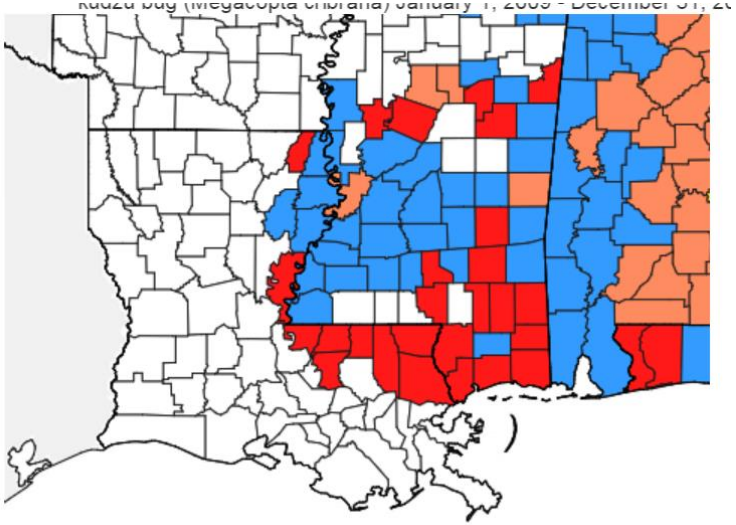
Maps on distribution of pests: EDDMaps.org



Kudzu Bug (*Megacopta cribraria*) is moving westward in the state

Monitoing by Dr. Jeff Davis from LSU AgCenter

2014 Monitoring
Concordia (March 4)
West Carroll (July 18)
Tangipahoa (August 14)
Washington (Sept. 12)
West Feliciana (Sept. 18)
East Baton Rouge (Oct. 8)
East Feliciana (Oct. 16)
St. Helena (Oct. 16)
St. Tammany (Oct. 16)



2013 (**blue**) and 2014 (**red**)

- Reproductive populations found in soybean
-Native egg parasitoids available

Crape myrtle bark scale (*Eriococcus lagerstroemiae*) is becoming a major problem for the ornamental industry

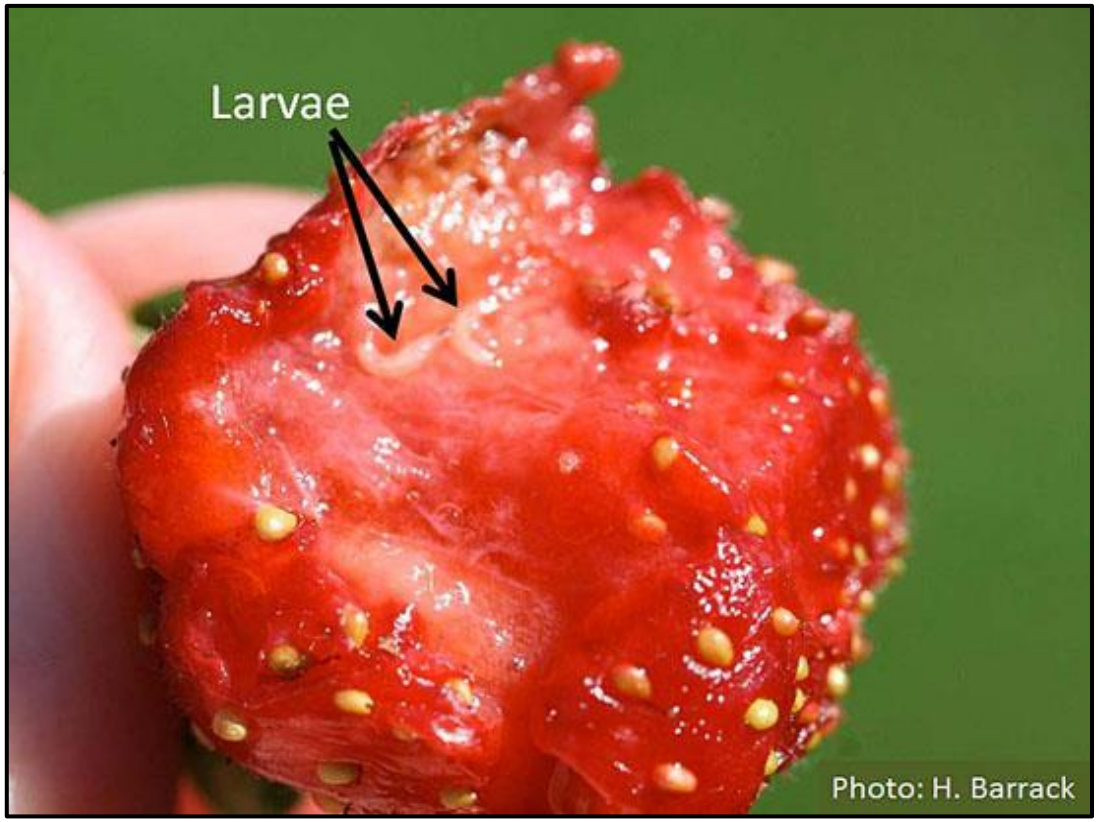
Native from Asia

Present in several parishes

Causes major aesthetic damage

Control methods include: resistant varieties, systemic insecticides and lady beetles

Spotted wing drosophila (*Drosophila suzukii*) attacks strawberry, blueberry and blackberry



Adults: 1/16 to 1/8”

Eggs laid in the fruit

Larvae feed inside, fruit collapse and fungus invasion

Management includes sanitation, pruning to open canopies, trapping. Insecticides proved effective: spinosad, acetamiprid

Tropical Spiderwort (*Commelina benghalensis*) is annual/perennial weed in row crops

Pictures: Invasive.org

- Problem in cotton, peanuts
- TSW flowers are lavender or purple (not blue) and the young leaves have distinctive hairs
- Very difficult to control due to tolerance to Roundup (glyphosate)

Managed with deep tillage, and pre and post emergence herbicides

Giant salvinia (*Salvinia molesta*) is the most important aquatic weed in LA

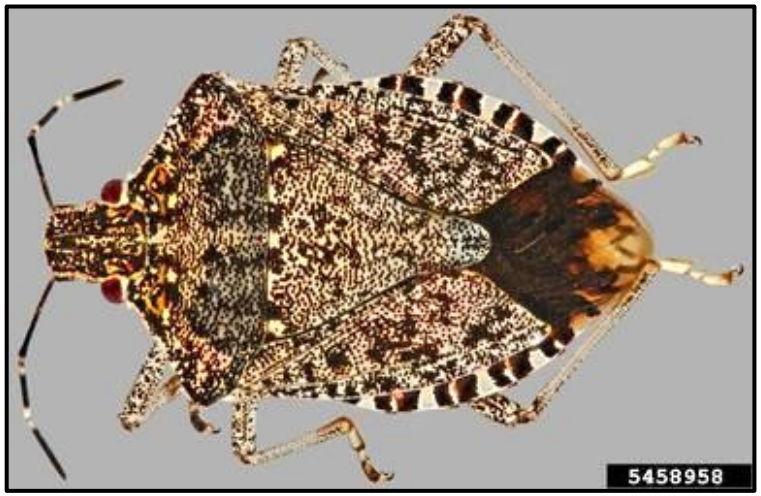
Mats covering lake

Close up of leaves

- 70,000 acres in 20 Louisiana lakes, seven bayous or rivers
- Displacing floating vegetation, blockage of sunlight
- Mass release program across LA
- Successful biocontrol in southern LA

Potential pest problems for Louisiana

Brown marmorated stink bug (*Halyomorpha halys*) present in TX, AR, MS



Adults similar in appearance to other stink bugs in LA

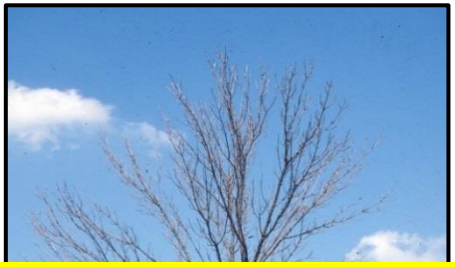
Feed on fruit, ornamentals and vegetable crops including soybeans

Difficult to control, population are highly mobile

Exotic parasitoid wasp being investigated as biocontrol

Management include bait traps and spraying on the perimeter of fields

Emerald ash borer (*Agrilus planipennis*) is already in our door step, reported in Arkansas



Adults are metallic green, 1/3” long

Larvae tunnel branches, form galleries in trunk

Reported on February 11th in LA

two years

Spreads through movement of firewood

Several systemic insecticide for protection of individual trees. There are three biocontrol agents available.

A new aphid threat to cereal crops, *Sipha maydis*, found in New Mexico

Pear shaped, somewhat flattened, color is dark brown to nearly black.

Feeding results in yellowing, rolling, and desiccation of leaves

Transmits the **barley yellow dwarf virus**- one of the most important and destructive diseases of small grain crops

Feed on > 30 different species of grasses

Pest alert: Old World bollworm (*Helicoverpa armigera*)


Soybean pod

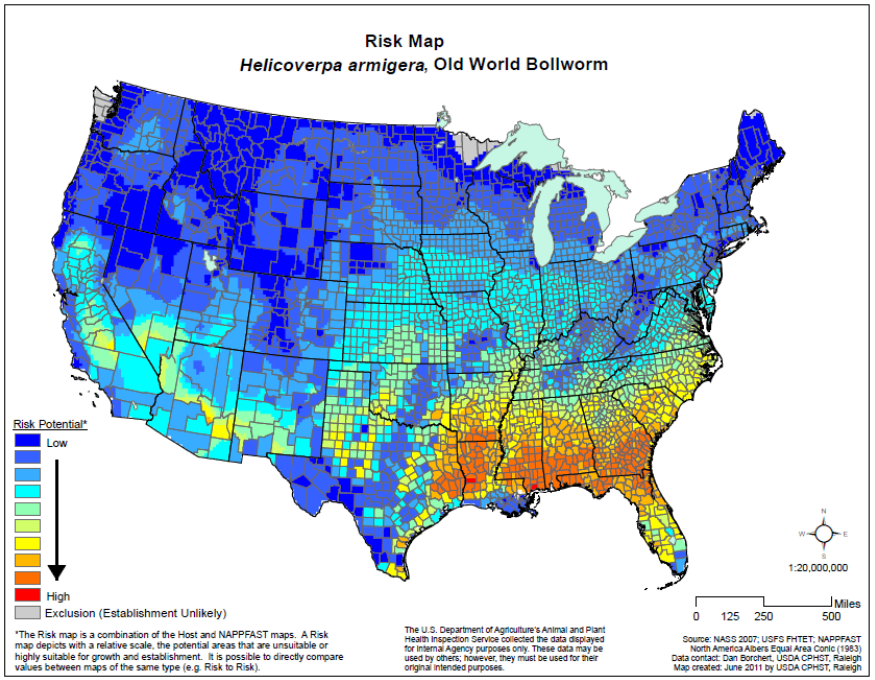
Resembles closely to corn earworm

Identification: Wing scale patterns BUT definitive ID requires dissections of genitalia

Polyphagous: 180 spp. in 45 plant families

From June 1984 to August 2013, 965 *H. armigera* **interceptions** were reported at U.S. ports of entry

Risk maps put Louisiana in the hot zone for establishment of this pest



Not being monitored in LA. We know it is already present in Puerto Rico.

Source: Nappfast.org

Summary: Managing invasive species requires a team effort

We are here to help!

Already spreading in the state

Keep an eye for: *Sipha maydis* and Old World bollworm

Thanks for your attention. Questions?