Indirect effects of invasive insect management on forest insect biodiversity

PRESENTER:
Alyssa L. Lucas
@AlyssaLLucas
University of Missouri, Kevin B. Rice
allnfk@umsystem.edu

BACKGROUND:

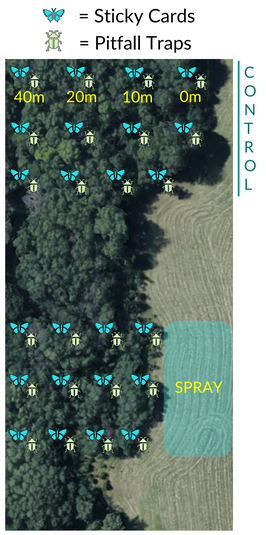
- Insect biodiversity is threatened by invasive species, climate change, habitat destruction, and insecticides.
- Invasive insects disrupt established IPM programs.
- Field crop growers in Missouri report 3-4 additional insecticide applications to manage invasive insects.

OBJECTIVE:

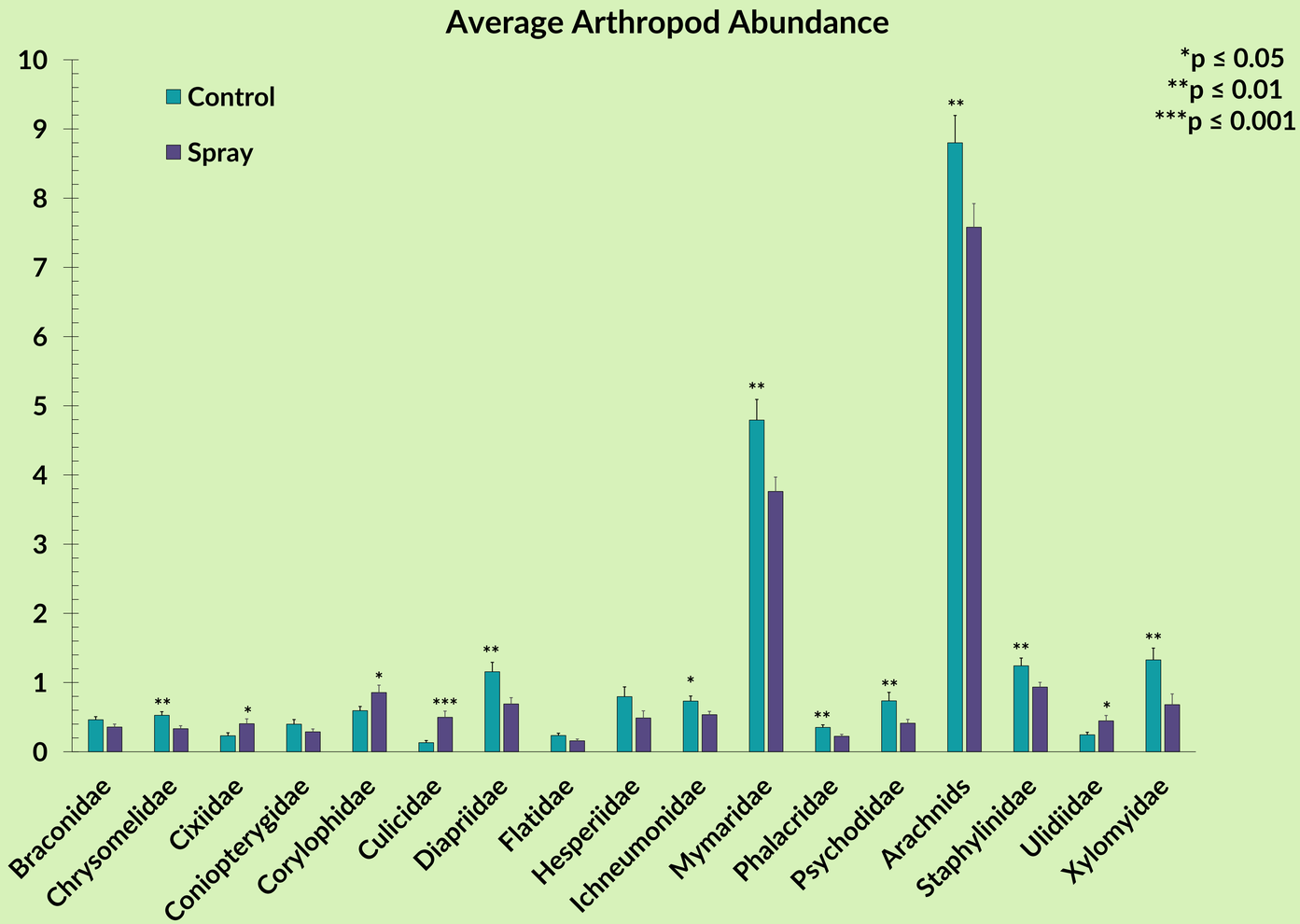
- Determine non-target effects of invasive insect management in agriculture on adjacent natural forest ecosystems.

METHODS:

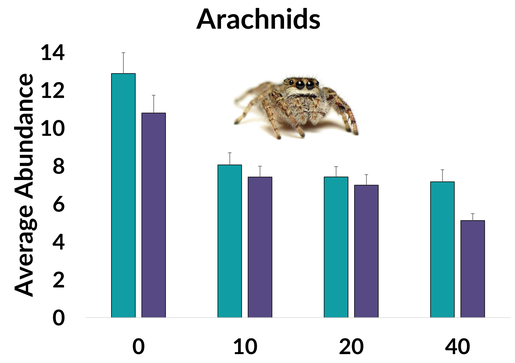
- Two treatments
  1. Adjacent soybeans treated with three pyrethroid sprays
  2. Untreated control
- Three sampling transects
  - Four distances
  - Three heights
- Sticky cards and pitfall traps sampled for twelve weeks

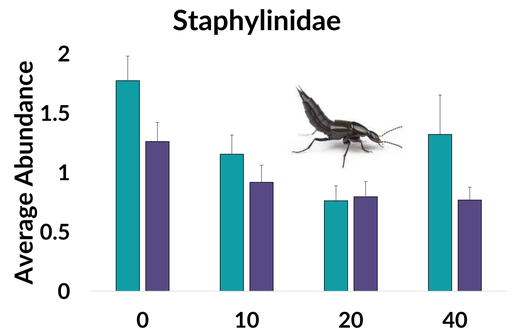


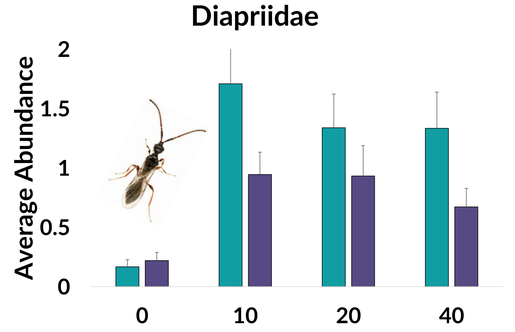
Forests adjacent to **pesticide-treated agriculture** had **lower predator and parasitoid abundance**

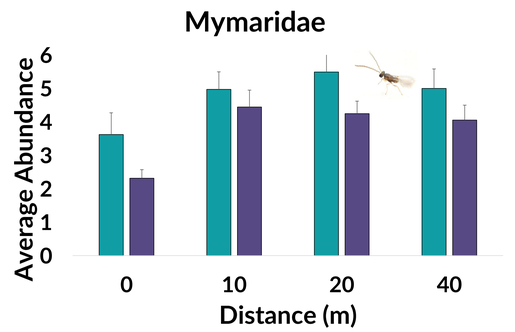


RESULTS









COMING SOON...

- Pitfall trap analysis
- Vertical stratification analysis
- Diversity metrics
- Do reduced forest predators affect pests in agriculture?