

A silhouette of a praying mantis is shown against a solid blue background. The mantis is perched on a dark, curved branch that runs across the bottom of the frame. The mantis's body is dark, and its long, spiny raptorial front legs are extended forward. Its head is turned slightly to the left, and two long, thin antennae extend from the top of its head. The overall composition is simple and focused on the insect's form.

# Entomology: The Study of Insects

# Why Care About Insects?

- 80 % of the animals on Earth are insects
- 1 million known species, 10 million estimated total
- Found almost everywhere
- Survive in many different ways



# Harmful, Beneficial, or Neither?



# Integrated Pest Management

Host Plant  
Resistance



Cultural Control



Biological  
Control



Chemical Control

# Economic Threshold

- ◆ The level of pest infestation needed to do enough damage to a crop that it will make economic sense to treat for the insect
- ◆ If it costs you \$12 per acre to spray an insecticide, is it worth it to kill a pest that would have eaten \$10 per acre of corn?

# Nebraska Corn Pests

- Western corn rootworm



- Western bean cutworm



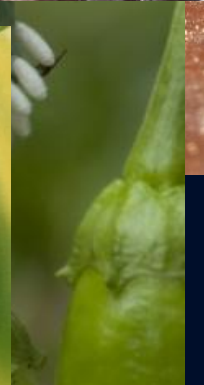
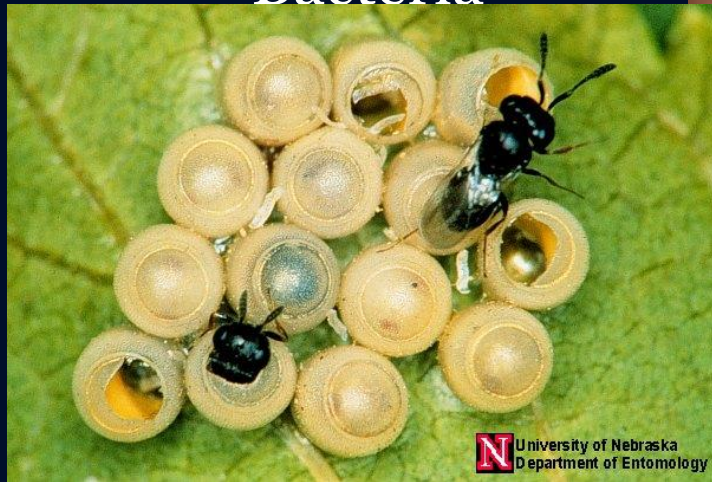
# Biological Control

- Using other living organisms to control pests
- These organisms that attack pests are called natural enemies



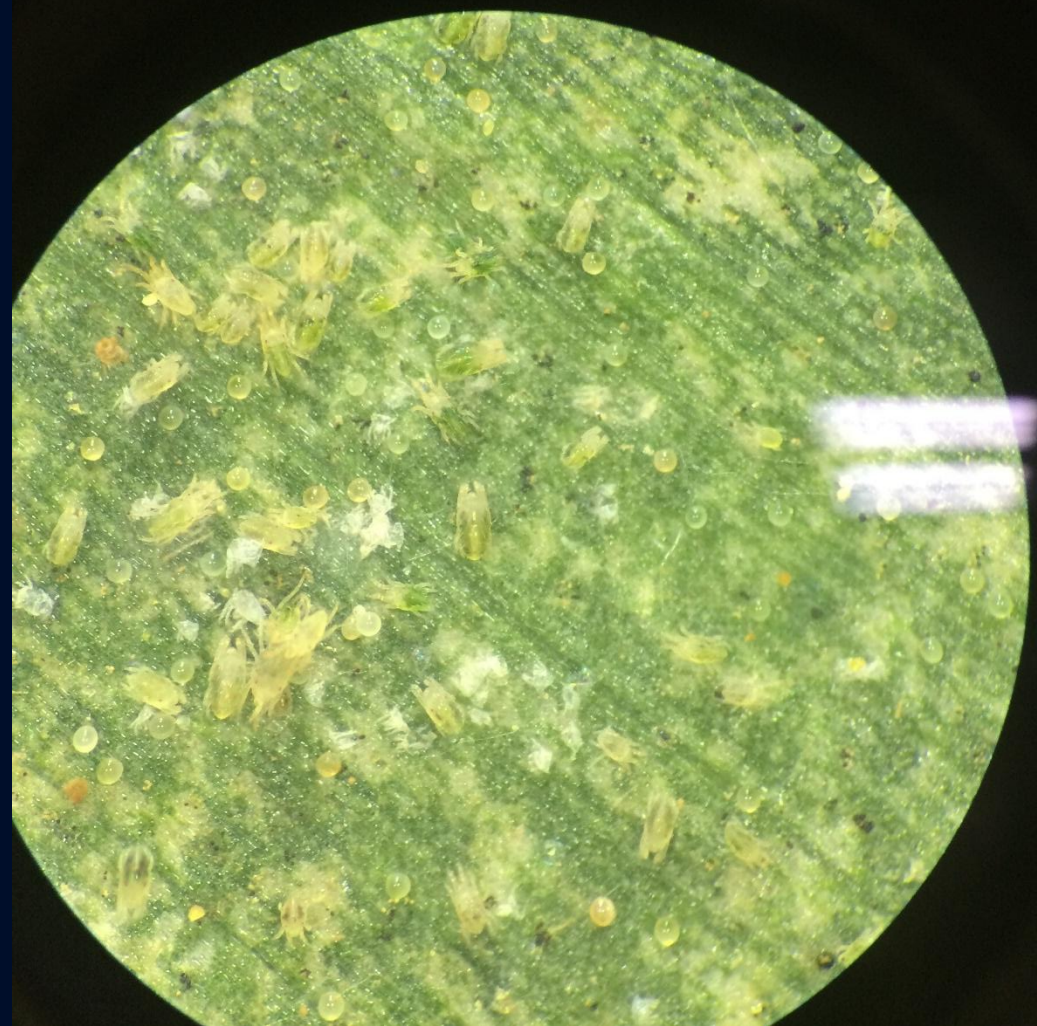
# Types of Natural Enemies

- Predators
- Parasitoids
- Pathogens
  - Fungi
  - Nematodes
  - Bacteria





# Secondary Pests: Spider Mites



# Instructions For Scouting Activity

- You will be crop consultants hired by a corn farmer in Nebraska
- Get into four groups with data sheets
- Check each plant one by one for presence of pests or other insects
- Make a decision based on the 40% economic threshold
- Share your results and other insights with the rest of the group