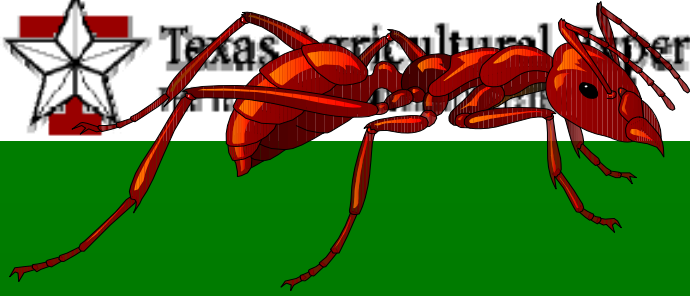




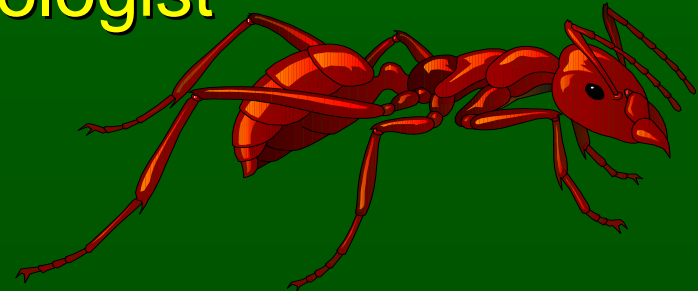
Texas Agricultural Experiment Station



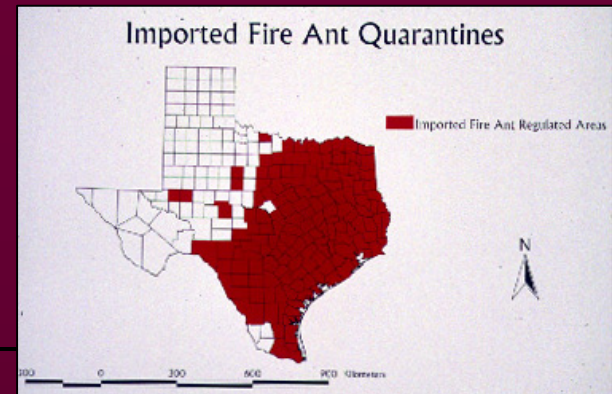
# Red Imported Fire Ant Impact and Management Considerations for Preserving Red Harvester Ants



Bastiaan “Bart” M. Drees, Professor and Extension Entomologist



# The Red Imported Fire Ant, *Solenopsis invicta* Buren (Hymenoptera: Formicidae)

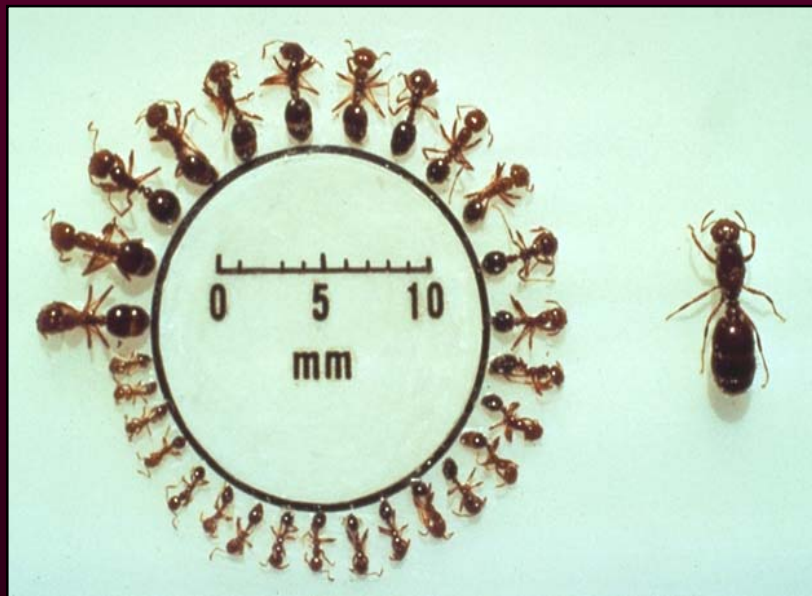


Photos by  
M. Yoder  
Chalidoid  
Lab, TAMU

# History & Spread

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**Red Imported Fire Ant**  
*Solenopsis invicta*  
Eat seeds, insects,  
proteins  
Lives indoors and  
outdoors

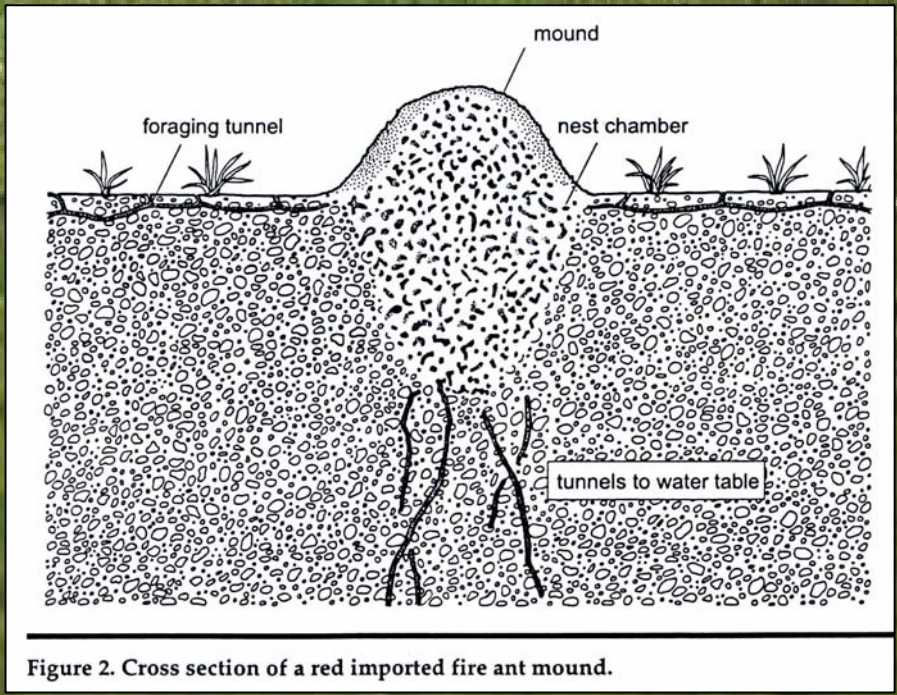
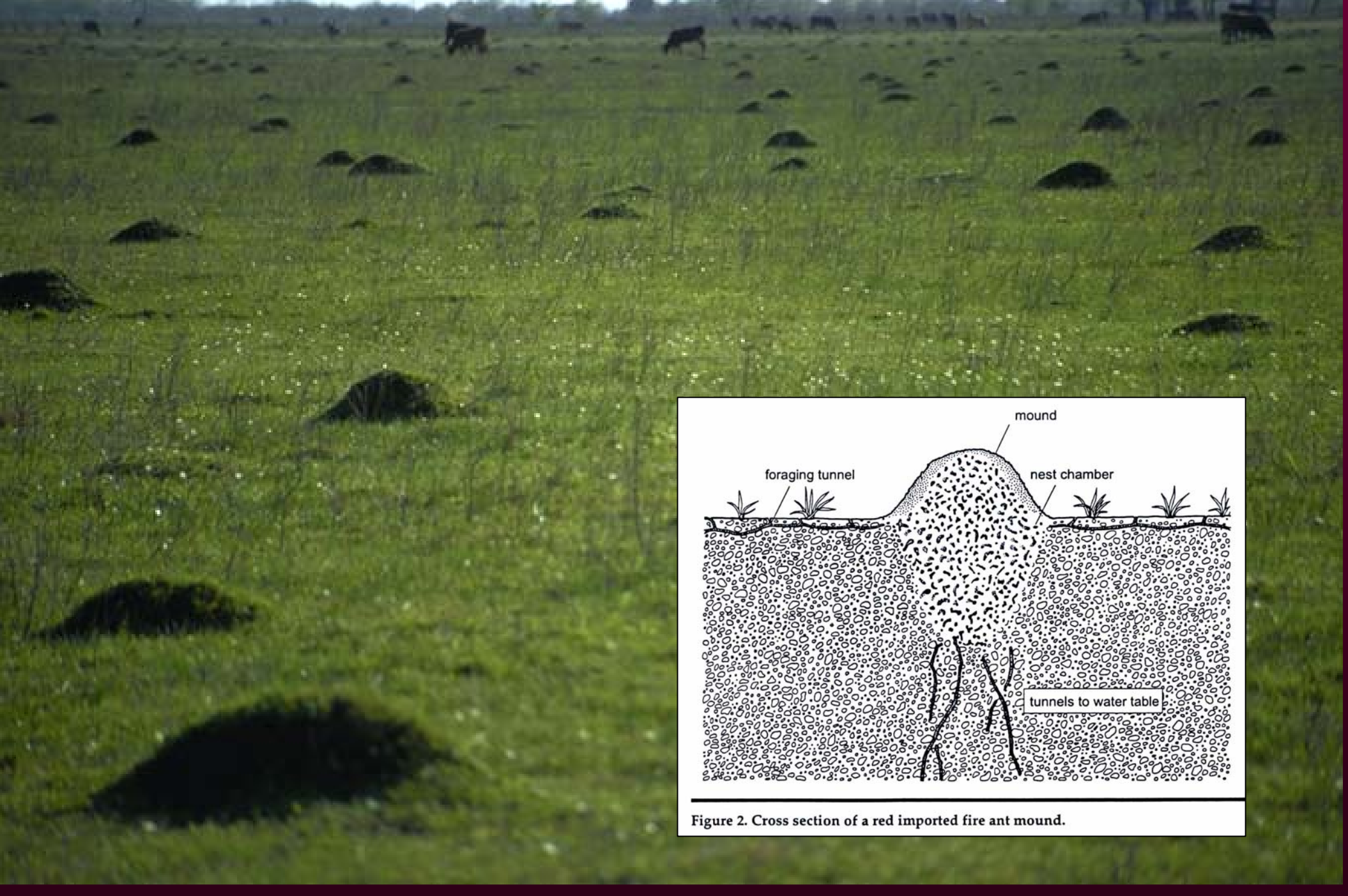


Figure 2. Cross section of a red imported fire ant mound.

# Threat to Horned Lizard, Red Harvester Ants?





## Red Harvester Ants

*Pogonomyrmex barbatus*

Eat seeds, grasses, dead insects

Nest outdoors

# Potential Factors for Harvester Ant Decline

(from “Red Harvester Ants”, L-5314)

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- Direct competition between red imported fire ant and red harvester ant colonies
- Predation of fire ants on harvester ant winged reproductive forms
- Insecticides used for fire ant control may kill red harvester ant colonies as formulated or applied
- Loss of harvester ant habitat due to cultivation, shredding, irrigation, smaller land parcels

# Fire Ant Predation on Winged Reproductive Harvester Ant “Queen”



# Integrated Pest Management (IPM)



- Cultural methods
- Biological Methods
- Chemical methods



# Phorid Fly Parasite Attacks



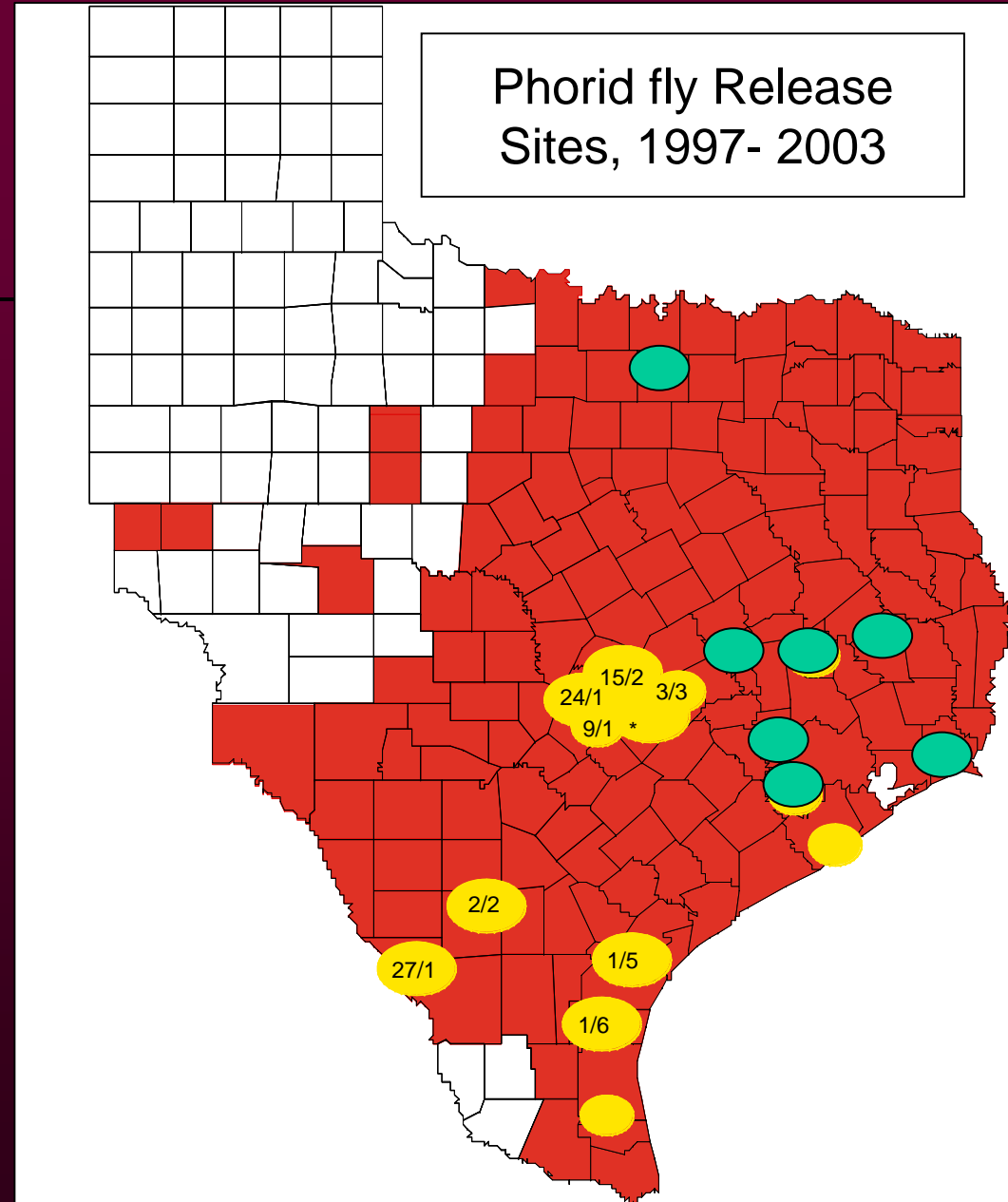
Photographs by Sanford Porter, USDA



Video by Larry Gilbert, UT

# Collaborations

- In-state collaborations with UT, TTU, TAES, TDA
- Multi-state and agency publications
- USDA-ARS Area-Wide Fire Ant Suppression Program
- USDA-APHIS phorid fly release program (Denton and Polk Counties)



# Two-Step Method

- Least toxic, cost-effective method
- Most suitable for larger, fully-infested areas
- Reduces surface runoff water contamination



- **Step 1:** Relies on periodic broadcast application of fire ant bait product(s)



- **Step 2:** Uses mound treatments to treat “nuisance” ant mounds, only

# Bait Technology



**AMDRO®**  
**PRO Fire Ant Bait**  
SPECIMEN

KILLS IMPORTED AND NATIVE FIRE ANTS  
and other ants

KILLS THE QUEEN DESTROYS THE MOUND

# Factors Affecting Bait Specificity

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- **Active ingredient:** metabolic inhibitors like Amdro, insect growth regulators like Logic® or Award®, Distance®, Extinguish®, and nerve toxins like Ascend
- **Formulation:** attractants like soybean oil or ground caterpillars, and concentration of active ingredient
- **Placement:** mount treatments versus broadcast application; other treatment patterns
- **Timing:** seasonal and daily variations in unique foraging habits of ant species

# Exclusion

- Weep hole covers, 0.6 mm or larger cracks
- Utility box protection



# Conserving Competitor Ants

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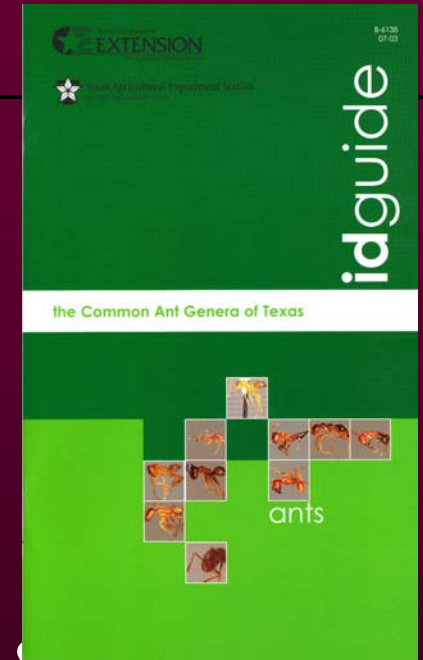
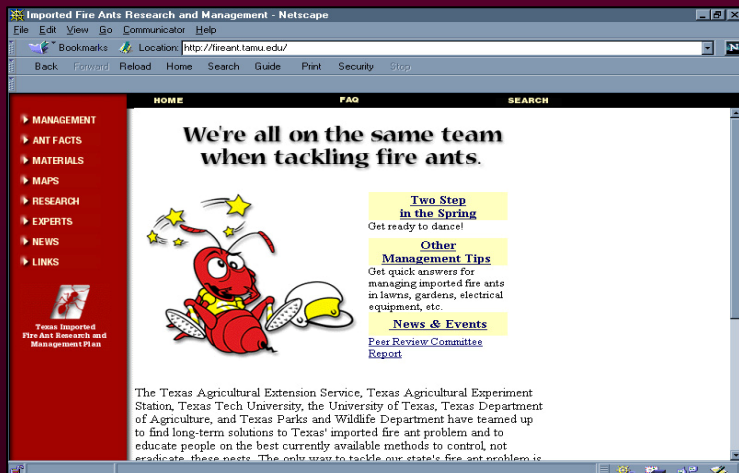
- Take care when using broad spectrum insecticides or broadcast bait products where native or exotic competitor (fire ant predator) ants are desired
- Use only individual fire ant mound treatment methods, and avoid treating nests of desirable ants
- In areas with 20 or more imported fire ant mounds per acre (5 mounds per  $\frac{1}{4}$  acre yard), broadcast application of fire ant bait product may actually help restore native ant communities by suppressing or eliminating fire ants

# Educational Support Materials Web

Sites: <http://fireant.tamu.edu>

<http://tcebookstore.org>

- Publications
- Fact sheets
- Newsletter
- Images
- Research summaries & reports
- Result demonstration reports



# What is the cost of loss of species?



- Video by Nancy Nicholi



Thank You

