Why Manage Ants?

- Common pest
- Invade human food resources
  - May vector bacteria, etc.
- Threaten human health
  - Bites & stings
Steps of IPM

- Monitor
  - Includes proper pest identification
- Determine action threshold
- Formulate IPM plan
- Implement IPM plan
  - Keep records
- Assess IPM plan
  - Make necessary changes
Step 1 - monitoring

- Visual inspection
  - Check areas
    - Entry areas
    - Near water
    - Near food
    - Harborage areas
Monitoring - possible locations
Monitor - proper identification

- Obtain correct information about pest
  - Different pests have different control strategies
- Capture the insect
- Take a photograph or digital image of the pest
Monitor - proper identification

- Use a field guide or literature to identify the pest yourself
- Use local extension agent
Step 2 - action threshold

- Economic injury level
- Aesthetics
- Health risk
Step 3- formulate plan

- Things to consider
  - Products available
  - Cost
  - Time management
  - Equipment required
  - Safety
Step 4 - implement plan

- Record keeping
  - What chemicals applied
  - Pest
  - Percentages/ amounts
  - Application location
  - Dates, etc.

- Logbook
  - Report pest problems in central location
Step 5- assess plan

- What worked?
- What didn’t work?
- What could be better?
- Make changes
Cultural Control

- Modifications to normal procedures to reduce or avoid pest problems
- Sanitation
Cultural Control - Sanitation
Things to watch for/fix
Cultural Control - sanitation

- Take out garbage regularly
- Clean garbage cans, recycling cans & dumpsters
- Reduce debris
- Repair leaky faucets
Mechanical Control

- Use of labor, materials (not pesticides) & machinery to reduce pests
- Exclusion
- Handpicking
- Spraying high-pressured water
Mechanical Control - Examples

- Physically remove ants from area
  - Vacuuming, shoveling, squashing
- Trim back trees & shrubs
- Weather stripping
- Stuff weepholes
- Caulk in cracks & crevices
- Store food in sealed containers
Mechanical Control - Exclusion
Physical Control

- Environmental manipulations that indirectly control pests
- Altering light, humidity, temperature
Biological Control - fire ants

- Phorid fly species
  - *Pseudodacteon* sp.
- *Microsporidia: Thelohania solenopsae*
  - Shorter life span
Basic Ant Morphology
Texas Leaf Cutting Ants

*Atta texana*

- Large- up to $\frac{1}{2}$”
- Reddish ants
- Two nodes
- Spines on thorax & head
- Polymorphic
- Eat fungus
  - Strip foliage from plants
  - Fungus garden
Texas Leaf Cutting Ants

*Atta texana*

- Mounds raised with crater shape in center
  - Central opening
- May forage far from colony
- Baits
- Sprays, dusts
Red Imported Fire Ants

Solenopsis invicta

- Two nodes
- Sting present
- Eyes large
- Base of antennae covered
- Gaster not hung below post petiole
- 10 segmented antennae
  - 2 segmented club at end
- Red and black
Simplified cross section diagram of a red imported fire ant mound
Red Imported Fire Ants
Solenopsis invicta

- Bite & sting
- Broadcast baits
- Individual mound treatments
- Once a year treatment
Acrobat Ants

Crematogaster spp.

- Small to medium- 1/8-3/8”
- Yellow to black
- Two nodes
- Pair of spines on thorax
- 12 segmented antennae
- Heart shaped abdomen
  - Attached post petiole

- Eat insects, honeydew, sweets, meats
  - omnivores
Acrobat Ants

*Crematogaster* spp.

- Usually don’t sting
  - Can bite

- Colony may be exposed, may be under things, may be in rotten wood, treeholes, shrubs
  - Couple thousand ants

- May protect honey dew producers on plants

- Baits
- Sprays, dusts
Harvester Ants

Pogonomyrmex sp.

- Large
- Red ants
- Two nodes
- 12 segmented antenna
- Spines on thorax
- Broad head with “beard”
- Eat seeds & are scavengers
Harvester Ants

*Pogonomyrmex* sp.

- Clear away grass in large patches & trails
- Potent sting
  - Not aggressive
- Encourage no management
  - Tilling, mowing area often
Rover Ants

*Brachymyrmex spp.*

- Tiny (~ 1/16”)
- Dark brown to black
- One node
- Circle of hairs @ tip of abdomen
- 9 segmented antennae
Rover Ants

Brachymyrmex spp.

- Small colonies
  - Hundred to few thousand
  - Under things or in rotting wood

- Nuisance ant

- Mating flights
  - Evening

- Baits
Carpenter Ants
Camponotus spp.

- Large - $\frac{1}{4}-\frac{1}{2}$”
- Red, black or combo
- One node
- No sting
- No circle of hairs @ tip of abdomen
- Evenly rounded thorax
- Polymorphic
Carpenter Ants
Camponotus spp.

- Nest- hollow trees, logs, posts, landscaping timbers, wood in homes
  - Several hundred to thousands
  - Parent colony + satellites

- Eat live insects, honeydew, fungus associated with wood
  - Scavengers

- Baits
- Dusts, sprays
Tawny Crazy Ant

*Nylanderia fulva*

- One node
- No sting
- Circle of hairs @ tip of abdomen
- Light brown
- ~ 1/8” long
- Monomorphic
- Long legs & long antennae
- Numerous long, coarse hairs on body

*Photo By: Danny McDonald*
Tawny Crazy Ant

*Nylanderia fulva*

- Found in 2002 in Harris Co.
- Currently confirmed in 27 counties
Tawny Crazy Ant

*Nylanderia fulva*

- Large colonies or groups of colonies
  - Indistinguishable
- Polygyne (multiple queens)
- Trailing
  - Erratic
  - Wider than 10 cm
  - Follow structural lines
Tawny Crazy Ant

*Nylanderia fulva*

- **Nesting**
  - Under or in almost anything
  - Primarily outdoors but forage indoors

- **Feeding**
  - Omnivorous
  - Tend honeydew producers
Tawny Crazy Ant

*Nylanderia fulva*

- **Treatment**
  - Do not respond well to most baits
  - Use contacts to create buffer zone
    - Als: pyrethroids, acephate, fipronil
  - Ants must be cleaned up between treatments
Black Crazy Ants
Paratrechina longicornis

- One node
- No sting
- Circle of hairs @ tip of abdomen
- Dark brown to black
- ~ 1/8” long
- Longer legs & longer antennae

- Monomorphic

- Eat honeydew, other insects, meat, grease, sweets & fruit
Black Crazy Ants
Paratrechina longicornis

- Run erratically
- May forage long distances
- Nuisance ant
- Nest under things, in trash piles, tree cavities, woodpiles
- Try baits, sprays, dusts
Argentine ants

*Linepithema humile*

- ~ 1/8”, brownish
- One node, no sting
- No circle of hair at abdomen tip
- No cone on thorax
- Monomorphic
- Eat sweets, fresh fruit, and buds of some plants; tend honeydew-producers
- Introduced, exotic
  - South America
Argentine ants

*Linepithema humile*

- Dense foraging trails
- May invade homes
- Nuisance ant

- Large colonies—“supercolonies”
  - Polygyne
  - Budding
  - Outdoors—In soil, under wood, rocks, etc., in treeholes

- Baits, sprays
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