

# Pinkies, What's the big Deal?

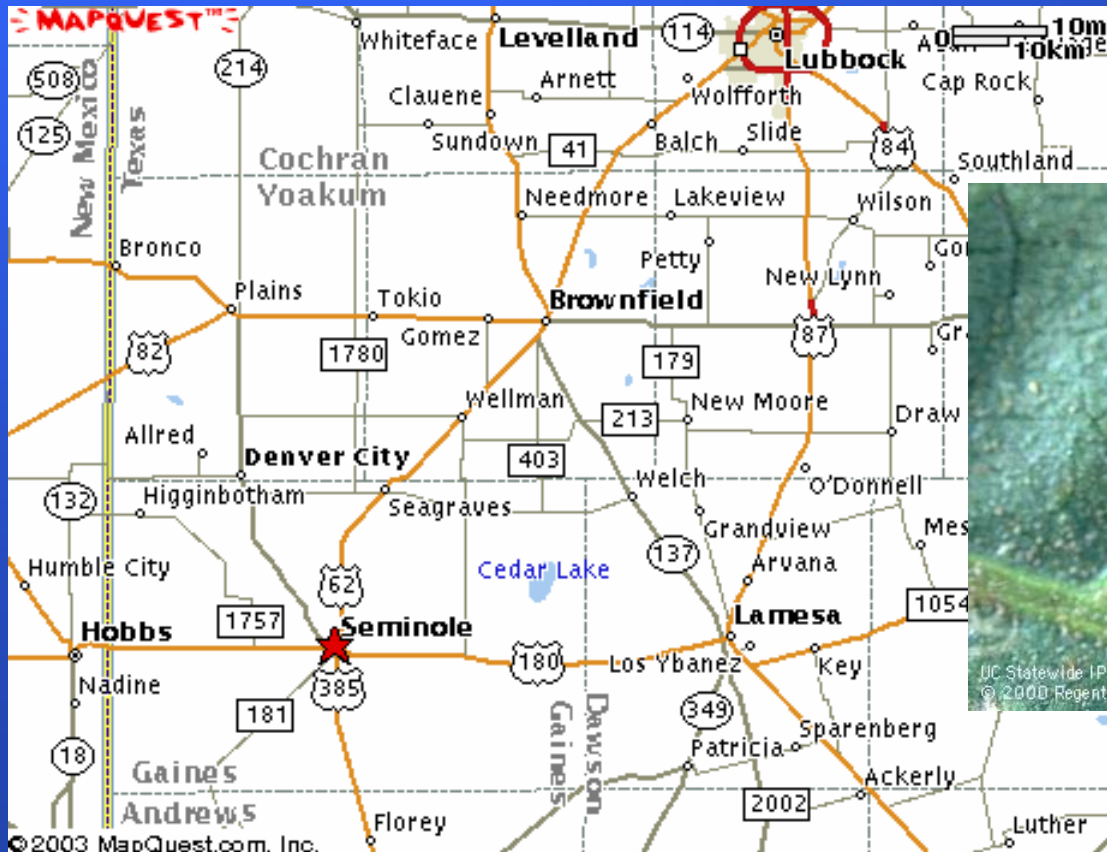


South Plains Ag Conference and  
Trade Show

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# Economic Infestations 2003



# Pink Bollworm Life Cycle

**Adults emerge in spring**



**Egg laying on cotton plant, hatch 3-4 days**



**Pupal stage 7-8 days; overwinters**



**Larval stage 12-15 days**

# Pink Bollworm Life Cycle



- Adult-3/8", gray-brown
  - emerges in spring
  - lives 10-14 days
  - lays 200 eggs
- Eggs laid
  - early season
    - vegetative parts
  - mid to late season
    - young bolls

# Pink Bollworm Life Cycle

- Larvae
  - early season-squares
  - mid-late season-bolls
  - hatch 3-4 days
  - young-white/black head
  - tunnel into square or boll within 1 hr
  - 12-15 days
  - mature-1/2"; pink bands



# Pink Bollworm Life Cycle

- Mature larvae
  - cut out of bloom/boll
  - pupate in soil/at soil surface
  - 7-8 days
- Complete life cycle
  - approx. 30 days
  - 4-5 generations/yr



# Pink Bollworm Life Cycle

- Winter survival
  - overwinter as mature larvae
    - bolls, seed, cotton litter, soil
  - in spring larvae pupate
  - adults emerge
    - many suicidal
    - need match-head square to survive



# Pink Bollworm Control

- Control is a year round task
- Spring: delay planting to improve seedling health and vigor
  - “planting window”
  - Pre-plant watering better than “watering –up”
- Manage for early maturity
  - terminate irrigation by August 25
  - use harvest aids
- Plant Bollgard® Varieties = 99% control



# Pink Bollworm Control in Pre-bloom Cotton

- Winter/spring irrigation may increase suicidal emergence\*
- Monitor adult moth emergence/activity with pheromone traps
- Treatment warranted when trap catches average more than 5 moths per night; Pyrethroids
- At 1/3 grown square discontinue insecticide treatment to allow natural enemy populations to rebound prior to first egg laying

# Pink Bollworm Control

- Adult pheromone traps
  - from pinhead to 1/3 grown square
  - threshold-5 moths/trap/night
- Trap density at least 1 trap per 30 acres
- Monitor/check traps every 2-3 days
- Pheromone traps are only an indicator of adult activity, field monitoring is still essential
- Plant Bollgard® Varieties

# Pink Bollworm Control after Cotton Blooms

- Must be based on:
  - Crop monitoring, bloom and boll infestation level
  - Trap catches only indicate adult moth activity, not egg laying & larval survival
- Plant Bollgard® Varieties



# Pink Bollworm Control after Cotton Blooms

- Proactive approach is based on trap catches
  - 5 plus moths per night = scout field, determine infestation level in blooms and small bolls, 10-15% consider treatment
  - Recheck traps in 4 days, 5 per night = treat again 5-7 days following previous application
- Continue until the top crop you expect to harvest is “safe”
- Cut off water by August 25 to reduce food quality for late season larvae

# Pink Bollworm Control after Cotton Blooms

- Crop Monitoring
- More accurate reflection of infestation levels
- Collect and examine 40-50 quarter sized boll, from all across the each field
- Carefully cut and examine for pink bollworm lava or damage
- 10-15% boll infestation rate should trigger treatment

# Pink Bollworm Control after Cotton Blooms

- Use a combination of trapping adults and Crop Monitoring
- Traps indicate adult activity
- Low numbers of moths in traps does not always mean low field activity

# Pink Bollworm Control

## Late Season

- Insecticide treatments end when last bolls to be harvested are rock hard
- Terminate irrigation by August 25
  - Reduce quality food for late season generations
- Use harvest aids that cause
  - Immature fruit drop
  - Defoliation
- Early and thorough harvest
  - Removes infested bolls

# Pink Bollworm Control

## Late Season

- Late-Season Management Cont.
  - Reduce overwintering populations by
    - Stalk destruction & Plow-down
    - Plow down at least 6”



# Insecticide Application Suggestions

- Use Pyrethroids, these are adulticides
- Apply late evening, moths are most active
- Utilize a “skip swath” method of application
- Monitor both adult and larval activity

# Some Things We Don't Know About PBW

- How are they distributed?
  - needed to determine most efficient sampling plan
- Where majority of larvae overwinter
  - seed, bolls, leaf litter, soil ?
- How effective is plow down?
- How long after irrigation do moths emerge & what % emergence can we expect?

# Some Things We Don't Know About PBW

- When do most PBW enter overwintering stage?
  - Need DD models for better prediction in West Texas
- What is relationship between Adult trap numbers and egg lay?
  - Can adult traps be used to time treatments?
- How are PBW populations affected by insecticides?