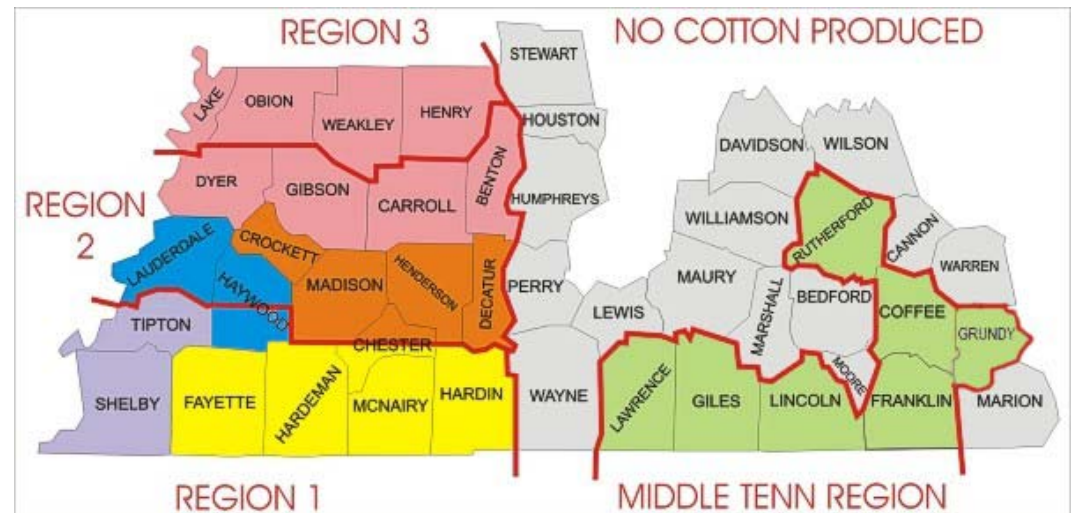


# IPM in Tennessee: Observations, Limitations and Opportunities

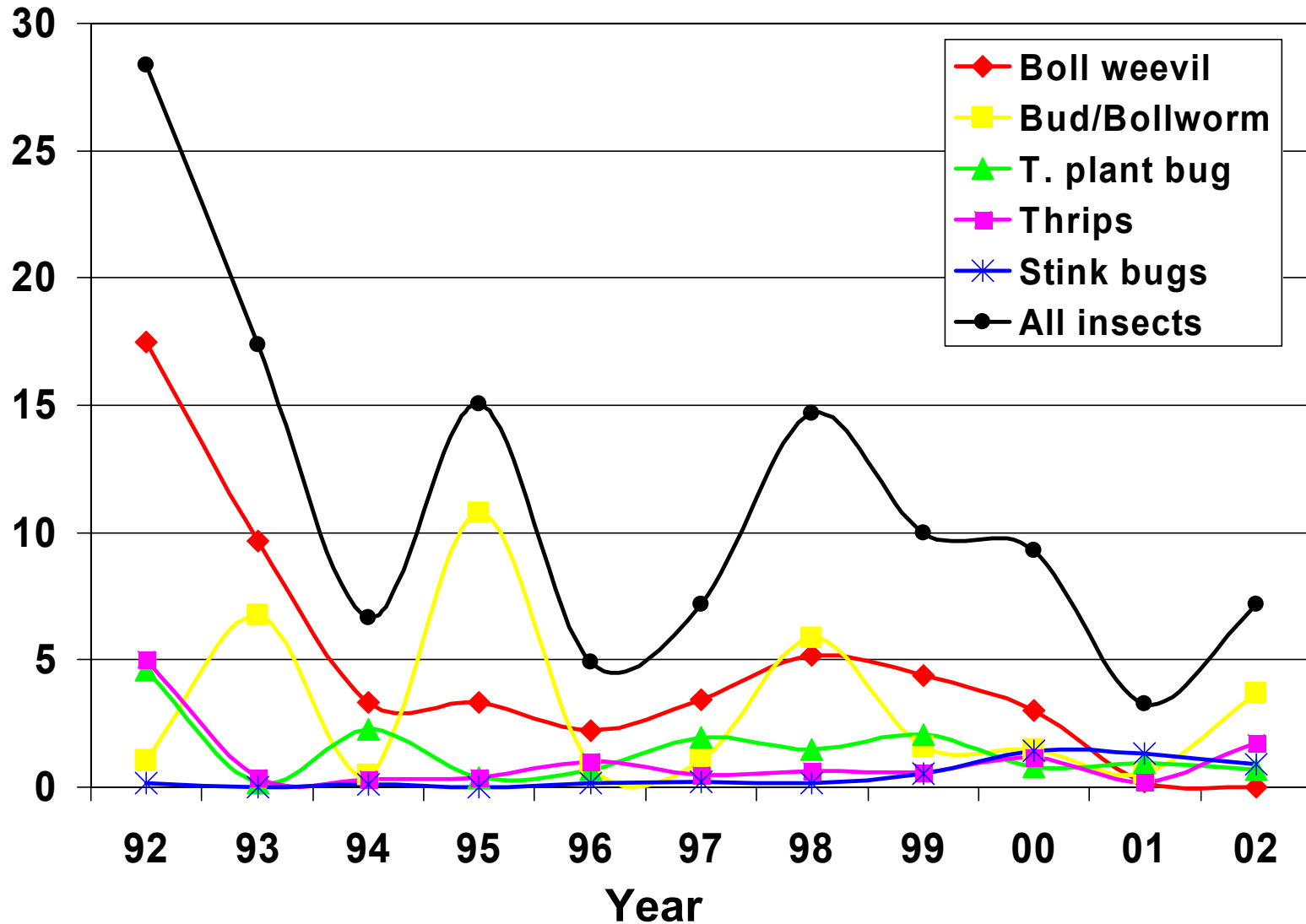


## Resistance, Bt Cotton, and Boll Weevil Eradication

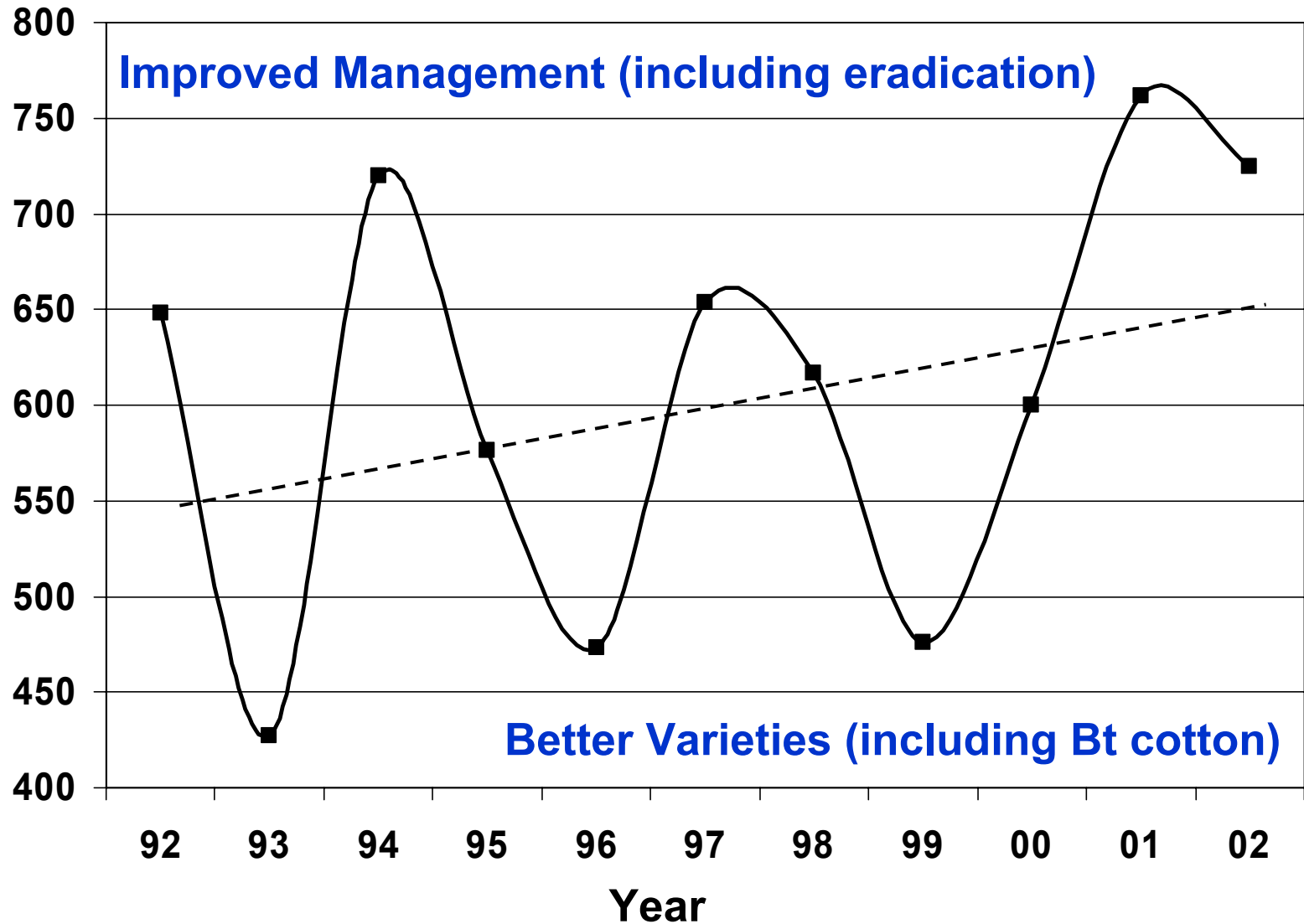


Scott D. Stewart, Cotton IPM Specialist  
West Tennessee Experiment Station  
February, 2003

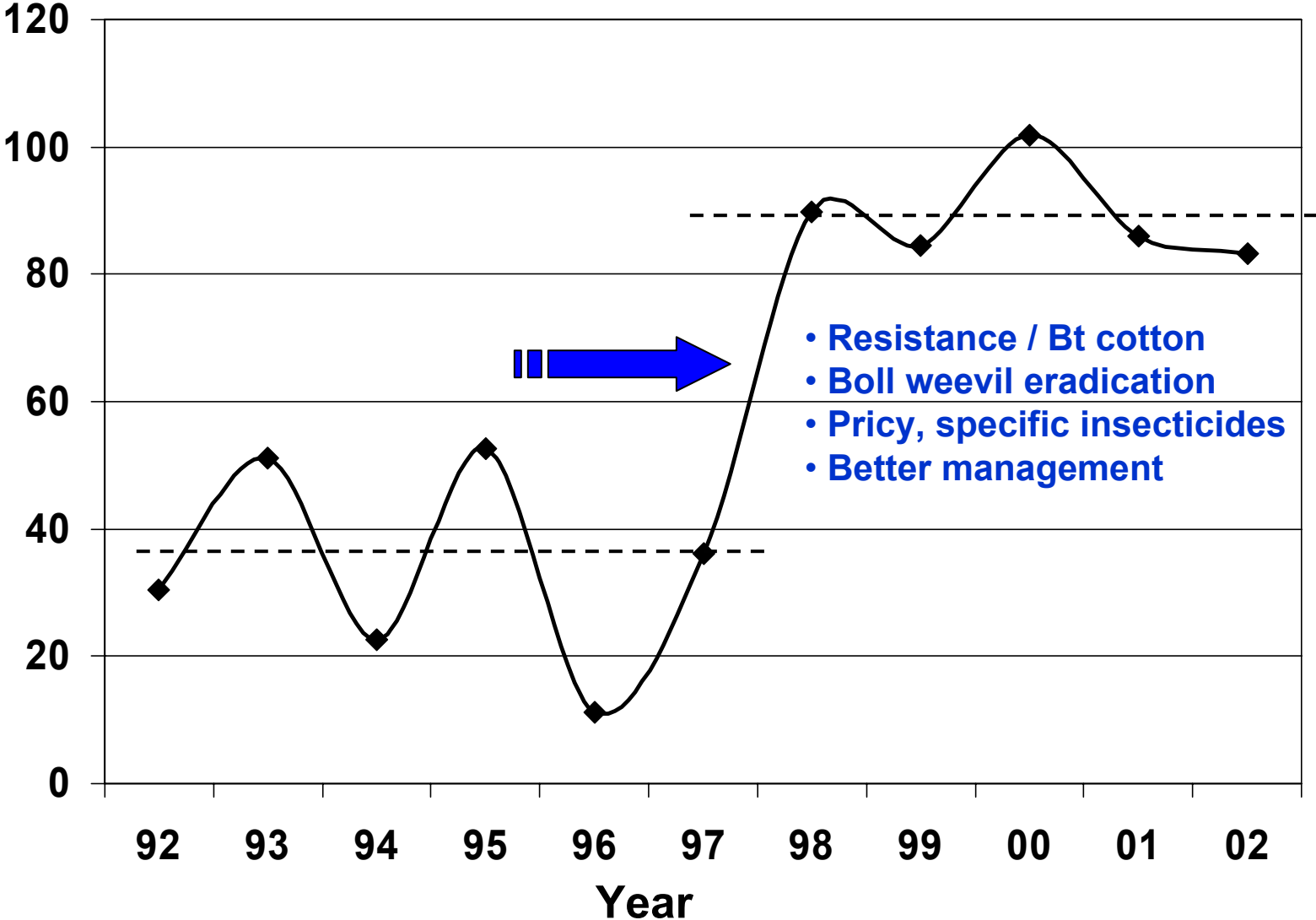
# Insect Losses for Tennessee (estimated percent yield loss)



# Lint Yield for Tennessee (lbs. per acre)

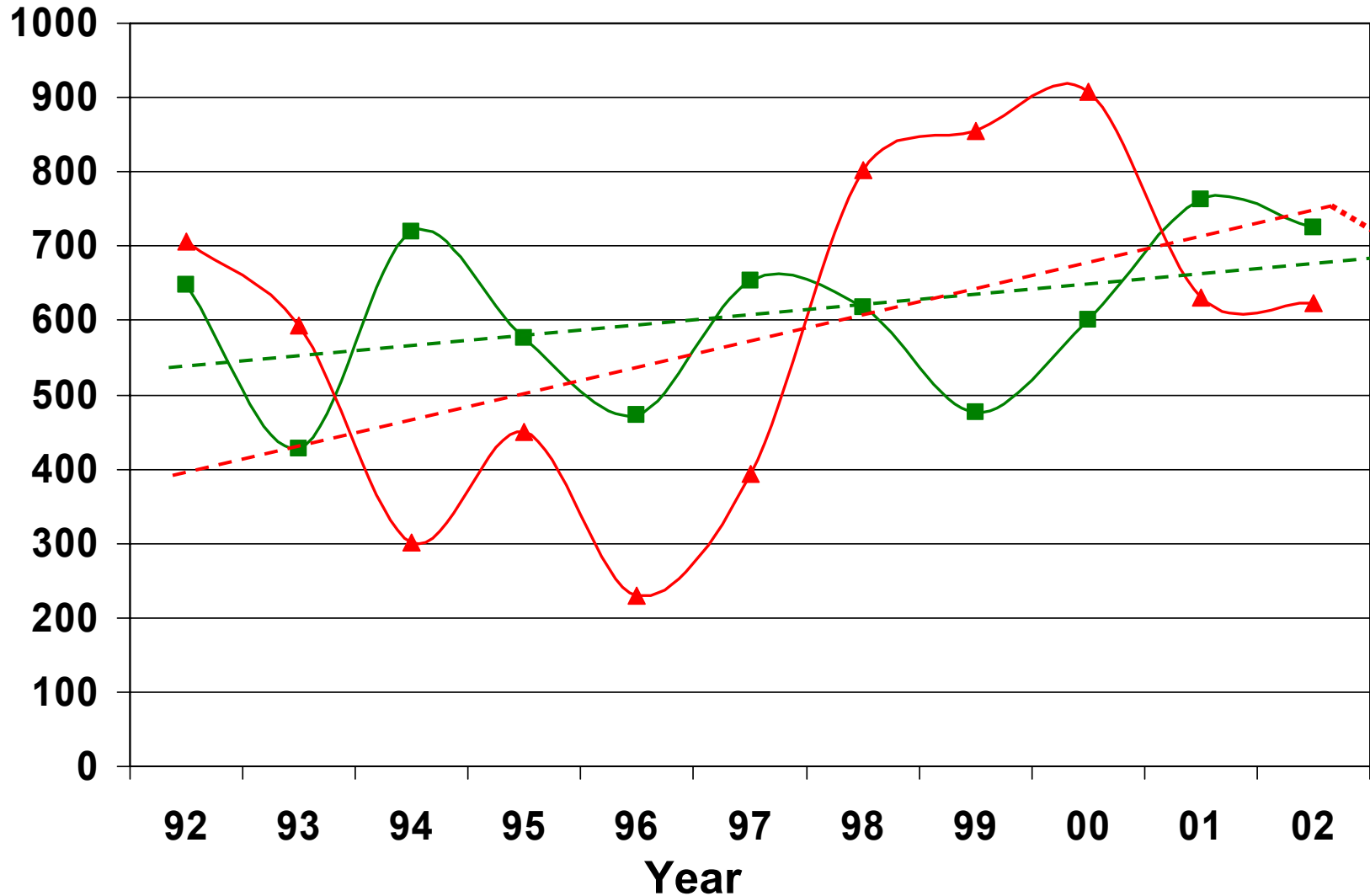


# Insect Control Costs for Tennessee (dollars/acre)



# Lint Yield vs. Insect Related Costs

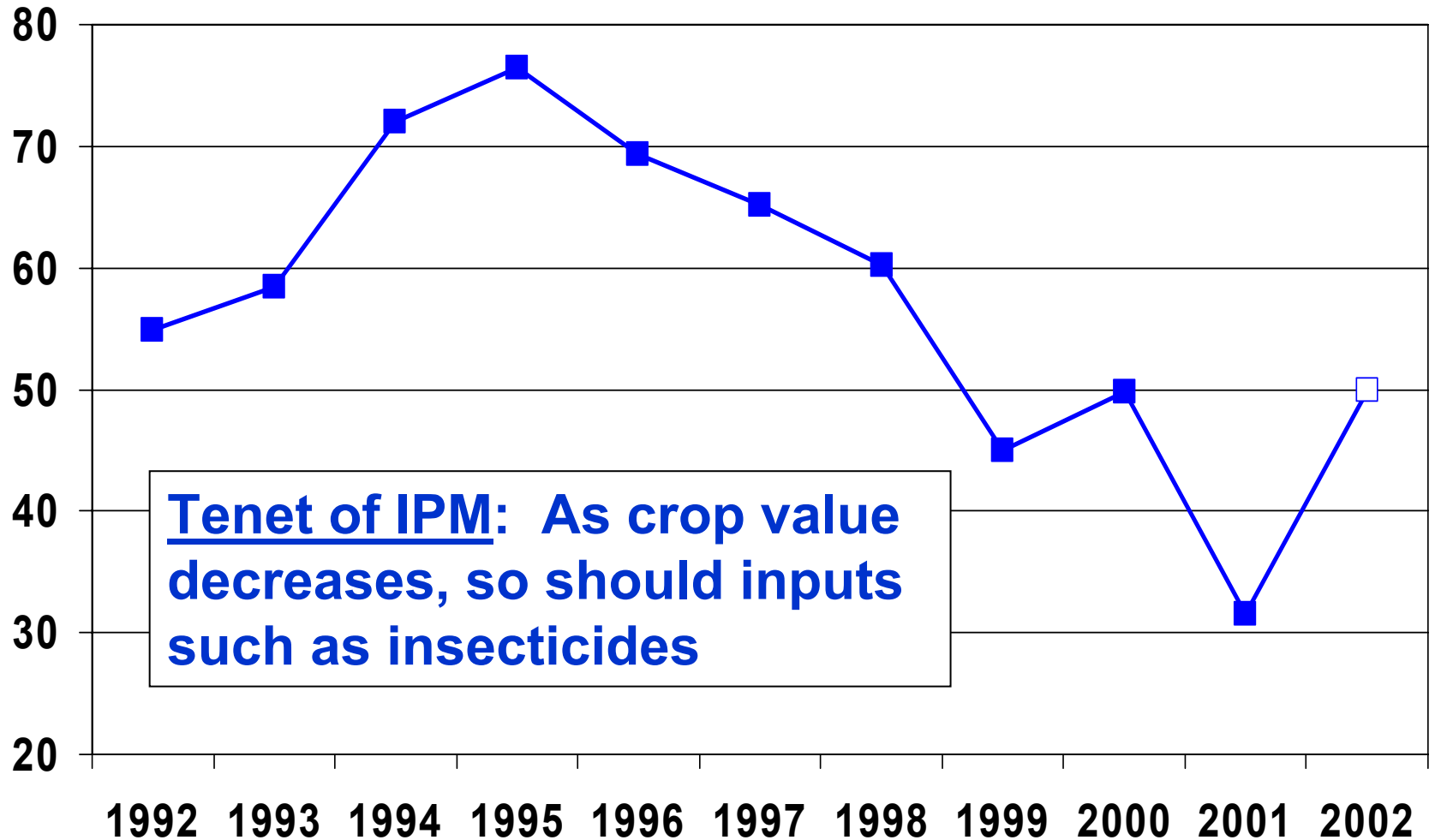
■ Lbs. Lint / Acre ▲ Costs + Loss (\$100,000's)



# Anticipated “Fixed” Costs in 2003 (estimated state average across all acres)

- **Bt cotton (\$19/acre)**
  - Plus yield reductions in non-Bt refuge
- **At-planting insecticides (\$10/acre)**
- **Boll weevil eradication (about \$30/acre)**
  - Averaged 5% yield losses (1990-1999)
  - Averaged 2.5 applications/acre (1990-1999)
- **Insect control costs in 2002 (\$83/acre)**
- **About 2/3<sup>rds</sup> of insect budget are fixed costs associated with Bt cotton, eradication efforts, and thrips control**

# Cotton Prices (cents/pound)



# Opportunities to Reduce Insect Related Costs in 2003

- **Limited by fixed costs**
- **Eliminate unnecessary insecticide applications and/or reduce insect damage**
  - **Use existing treatment thresholds and other recommended insect management guidelines**
  - **Increase performance of applications**
    - **Choose the best insecticide for the money**
    - **Improved timing**
    - **Better application (including precision ag)**
  - **Reduced insecticide rates?**

# Better Insecticides?

## Caterpillar Products

- spinosad (Tracer)
- indoxacarb (Steward)
- methoxyfenozide (Intrepid)
- emamectin benzoate (Denim)

## Thrips and “Bug” Products

- imidacloprid (Trimax/Gaucho)
- thiamethoxam (Centric/Cruiser)
- acetamiprid (Intruder)



# Value of a Professional Crop Consulting Program

(still important when profit margins are small)



- **Timing of insecticide applications**
  - Increase efficacy, reduce applications, prevent yield loss
- **Knowledgeable selection of materials**
  - New insecticides
- **Detection of uncommon pests or pests occurring at unusual times**
- **Monitor crop maturity / insecticide termination decisions (NAWF5, etc.)**
- **Reduces need for insecticide-program approaches that may inflate insecticide costs**

# Insecticide Applications

- **Take the time to:**
  - Calibrate
  - Band early-season sprays
- **Ground applications:**
  - 5-10 gallons per acre (more is OK)
  - 30-50 psi
  - Use hollow-cone nozzles (TX6 – TX10)
    - Two nozzles per row is best
    - Especially important after bloom, in large cotton



# The End

