

# Economic Data Needed for Prioritization

Greg Pompelli  
USDA- Economic Research Service

National Plant Disease Recovery System  
Workshop  
St. Louis, MO -- April 24, 2007

## Good Practices

### ■ Understand

- Markets - economic networks – trade issues
- Biological processes, consumer behavior
- Decision maker's needs

### ■ Identify

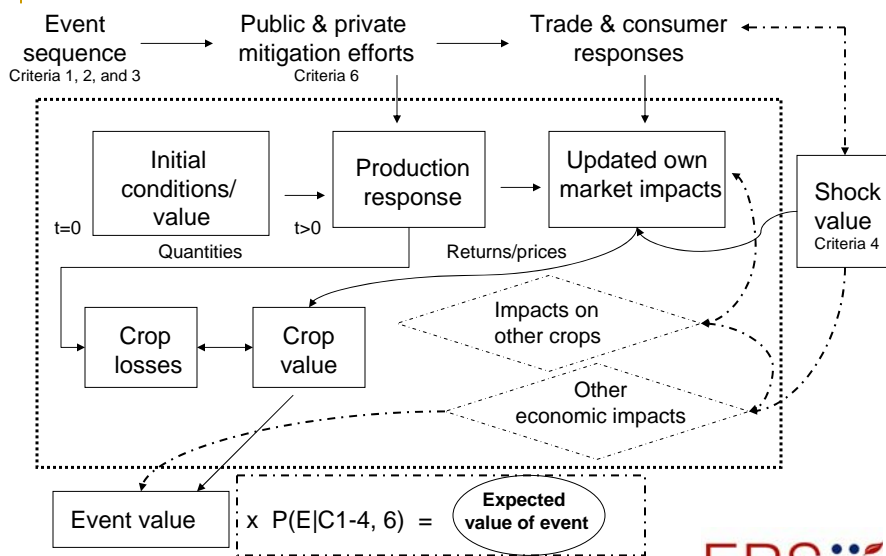
- Risks
- Options
- Gaps
- Issues on the periphery

## Factors Affecting Prioritization

- Biology of the pest and hosts
- Potential detection/infestation/control scenarios
- Range of mitigation efforts – costs – effectiveness
- Market reactions
  - Producers – regional differences
  - Trading partners
  - Competitors
- Time horizon
- Analytical and data limits



## Valuing an Event (aka Criteria 5)



## Influence of Market Response

- Capacity of a system to cushion itself
  - Market reallocations - adapt behavior
  - Increase set of alternatives
- Ability to place events in perspective
  - Influence consequences
  - Judgment among alternative choices
- Cost of monitoring/managing
  - Detection
  - Crop rotations, scouting practices

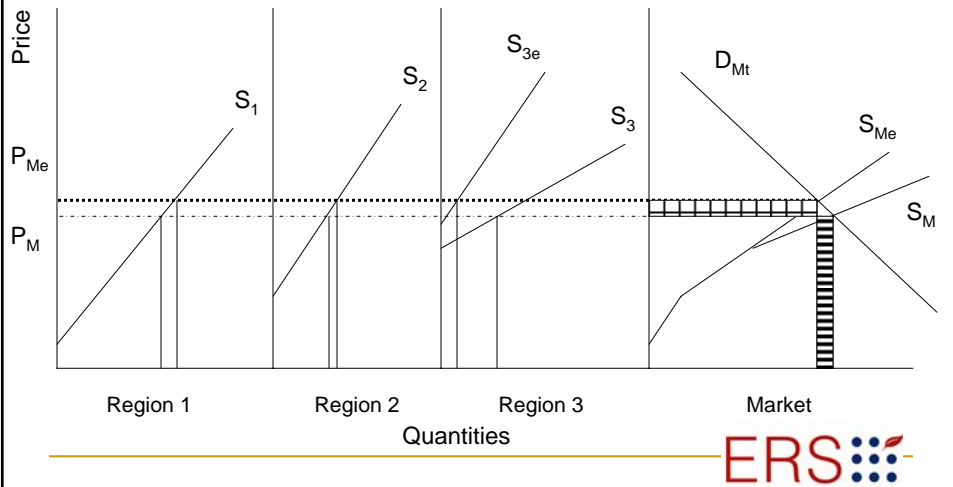


## Portraying Events

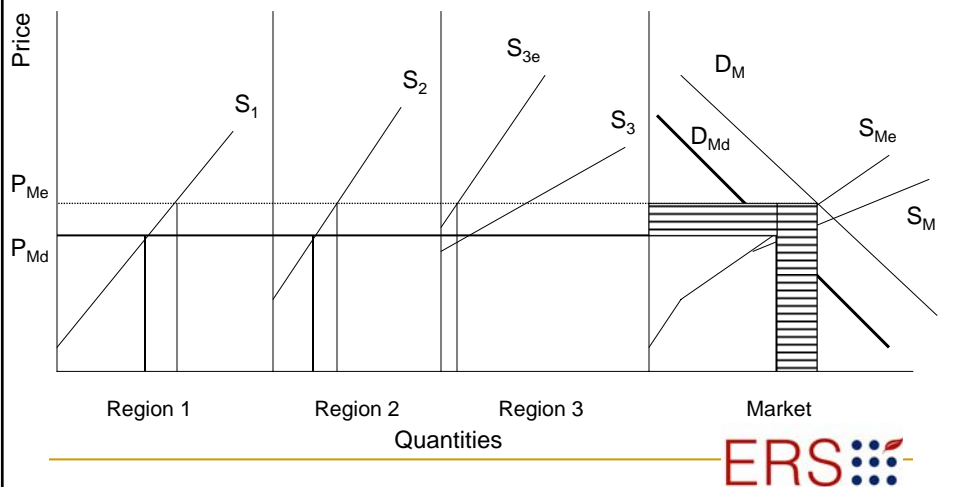
- Mapping impacts
  - Magnitudes and options
  - Sequence and probabilities of outcomes
  - Comparisons to historical experience
- Distilling imperfect or uncertain information into quantities and prices
- Expert opinion



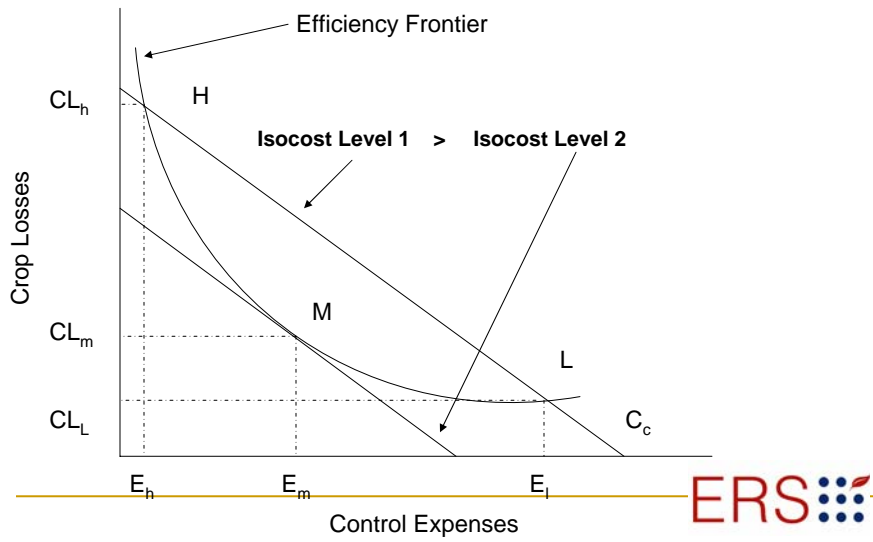
## Aggregating Effects [w/o demand shift]



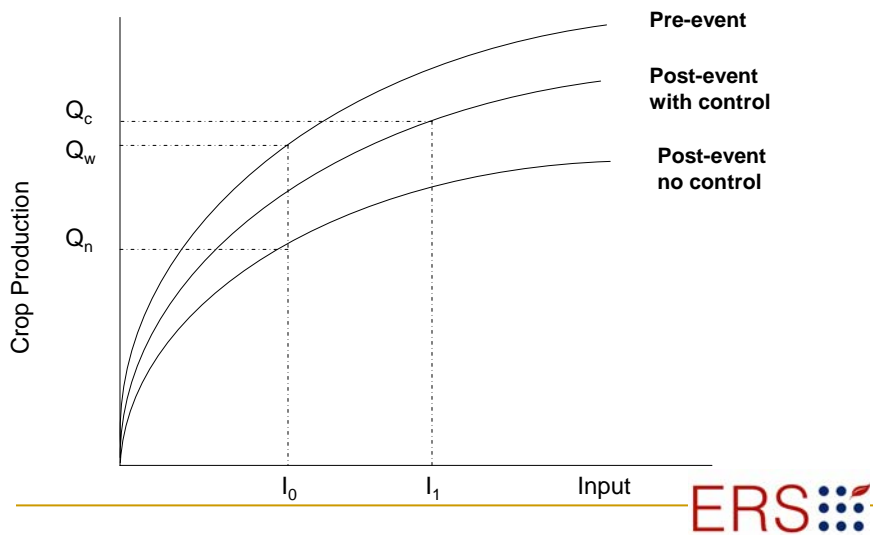
## Aggregating Effects [demand effects]



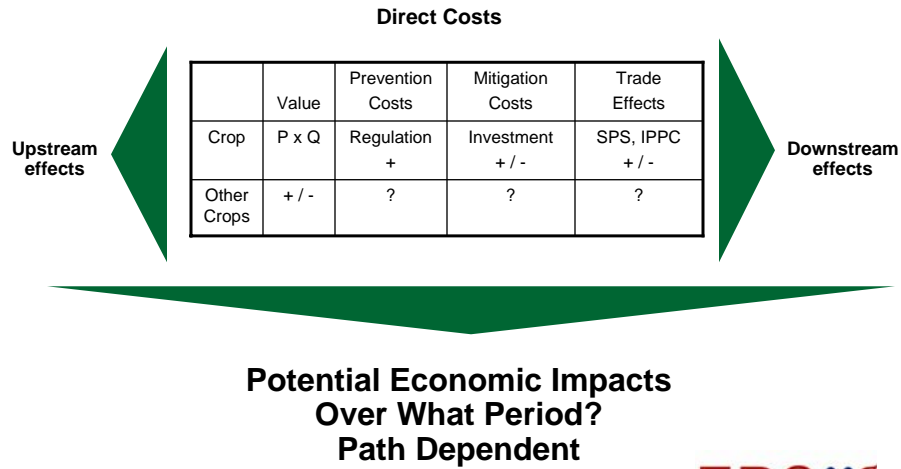
## Isolating Losses



## Effects Over Time

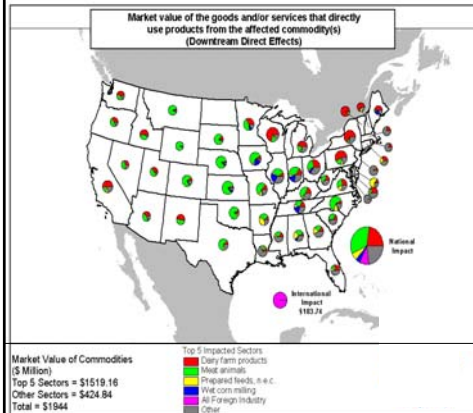


## What Else Should be Included ?

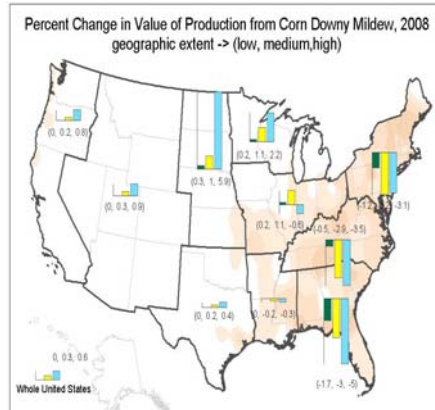


## Analysis of a Plant Disease

Other industries affected by the disease  
downstream example



Differential effects on the value of production by region



## Limits to Assessments

- Increasing detail increases trade-offs
  - Models
  - Data
- Historical experiences for comparison
- Defer to expert opinion
  
- Imperfect translations- quantities and prices
- False precision mistaken for accuracy



## Prioritization - Economic Data Needs?

- Data currently available
  - Value of production
  - Value of exports
- Market reactions
  - Effects of and on substitutes or complements
  - Markets with the pest
- Additional considerations?
  - Value-added impacts
  - Interdependencies



# Ethanol production capacity and corn acres

