



Potential Market Impacts of Soybean Rust

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ERS 
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Report

- **Potential Economic and Policy Implications of the Wind-Borne Entry of Asian Soybean Rust into the United States**
 - Outlook Report No. (OCS04D02)
April 2004
<http://www.ers.usda.gov/publications>



Presentation Outline

- Study Objectives
- Study Assumptions
- Results
- Discussion



Study Objectives

- Examine economic implications of soybean rust (SBR) outbreaks:
 - Soybean sector
 - Other crops
 - Livestock sector
 - Consumers
- Policy implications



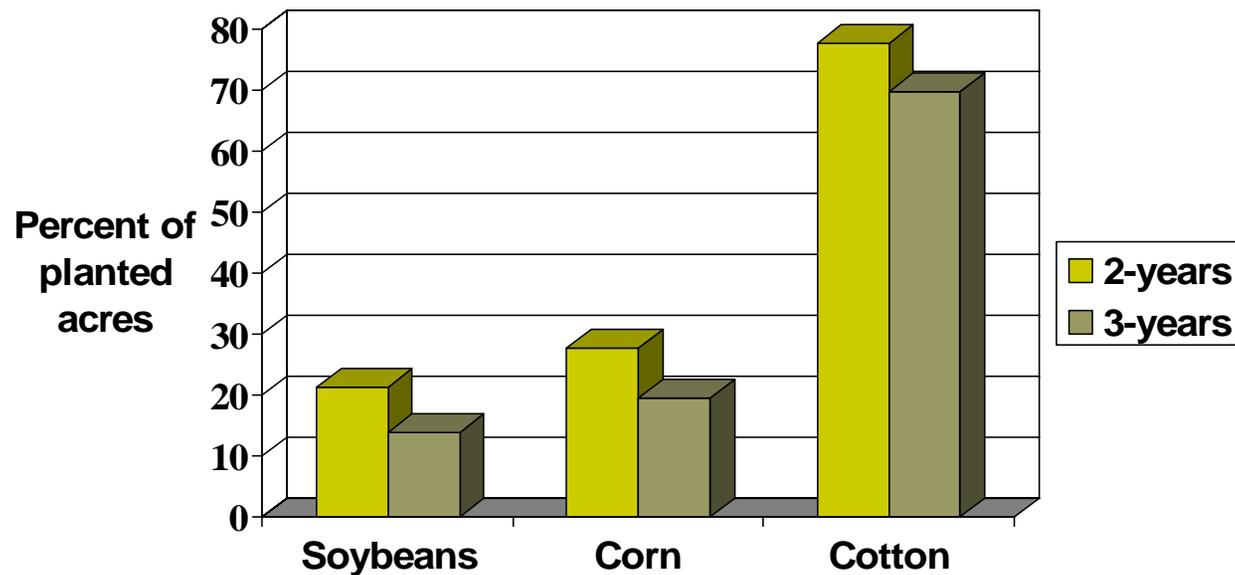
Study Assumptions

- Farmer's annual decision of which crops to plant is based on:
 - Expected market price
 - Expected yield
 - Expected cost of production
 - Crop rotation considerations
- Adequate pest control information



Study Assumptions

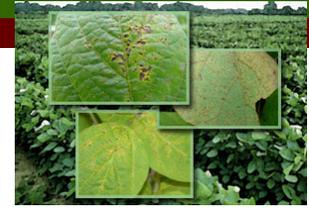
Share of acres planted to the same crop
for 2 and 3 years, 1996-2003





Study Assumptions

- SBR arrives in 2005
- 2-3 year adjustment period
- SBR impacts relative to USDA baseline published in 2001
- Incorporated regional SBR susceptibility



Study Assumptions

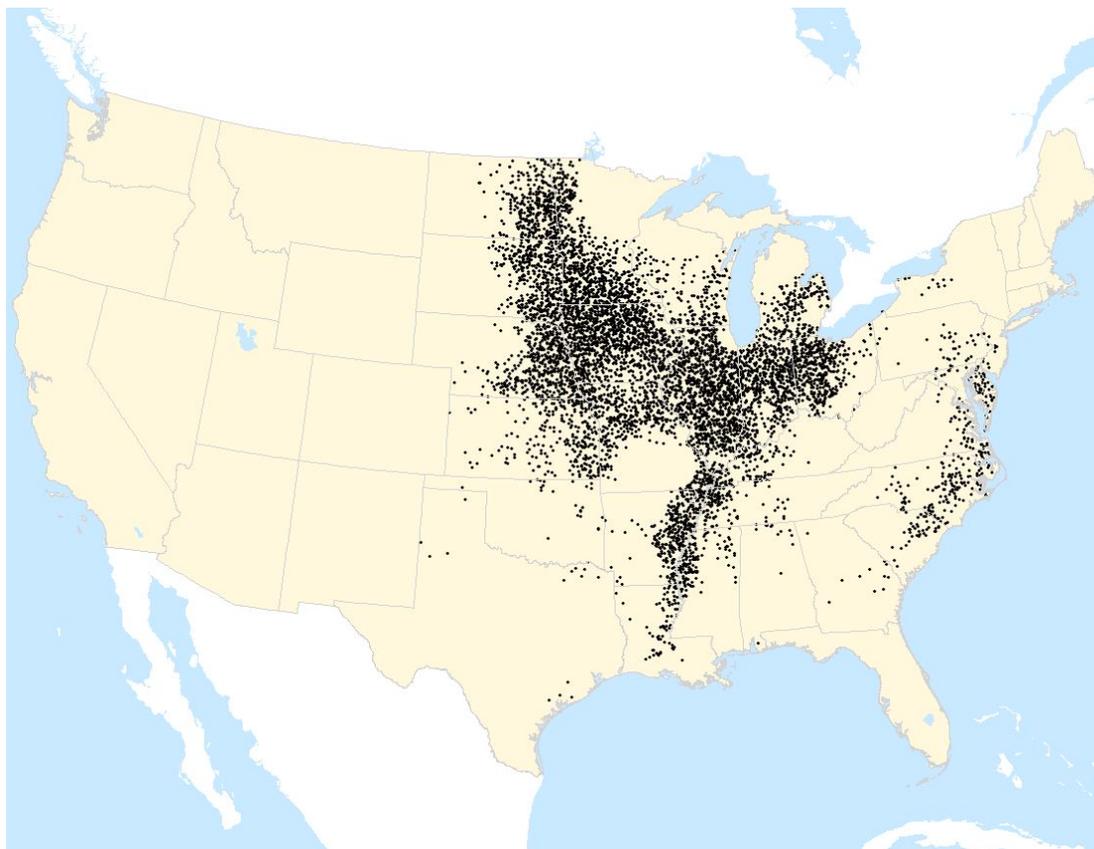
- SBR scenarios
 - Yield impact
 - Regions affected
 - Cost of fungicide treatment
- Fungicide cost per treated acre
 - \$19/acre material cost
 - \$6/acre application cost
 - \$25/acre total cost
 - No fungicide shortage



Study Assumptions

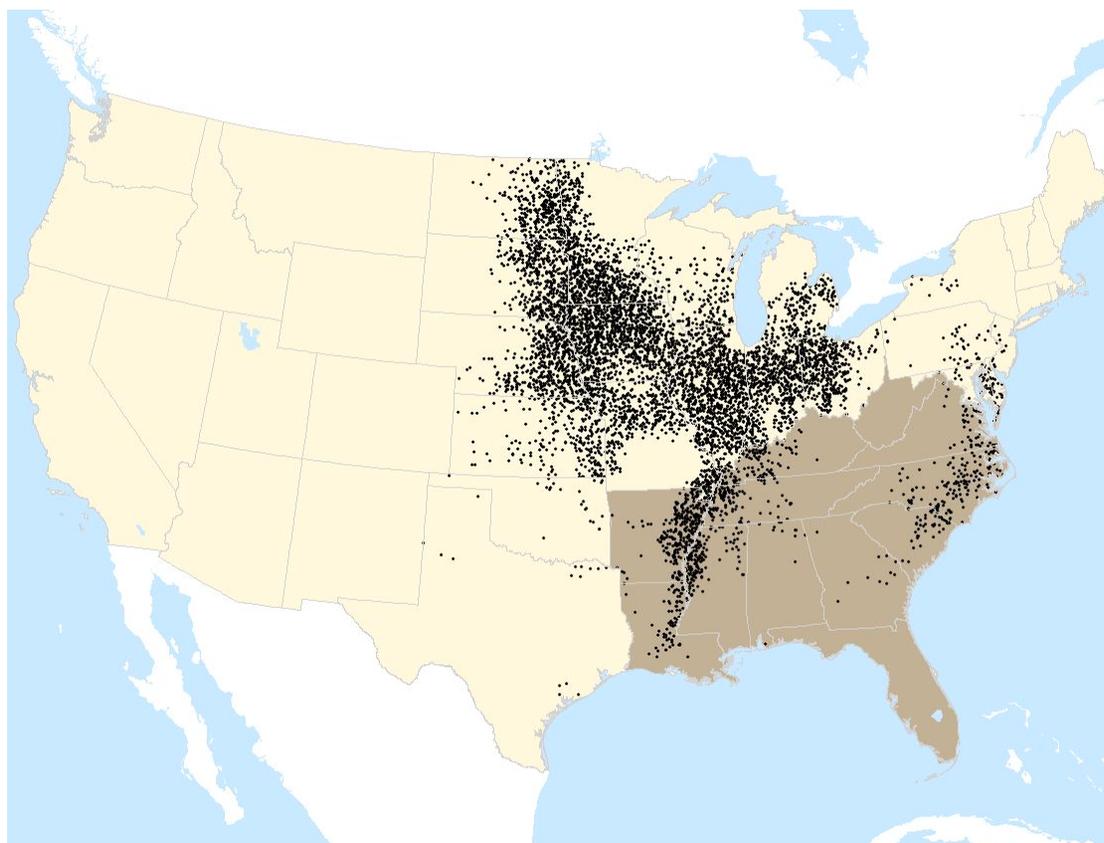
- Three SBR yield impact scenarios
- Yield change with fungicide treatment
 - 1% yield increase
 - 4% yield decline
 - 10% yield decline
- Three regional SBR infestation scenarios:
 - Southeast, Delta and Appalachia States
 - Cornbelt and Northeast States (plus above)
 - All soybean States

U.S. Soybean Production Regions



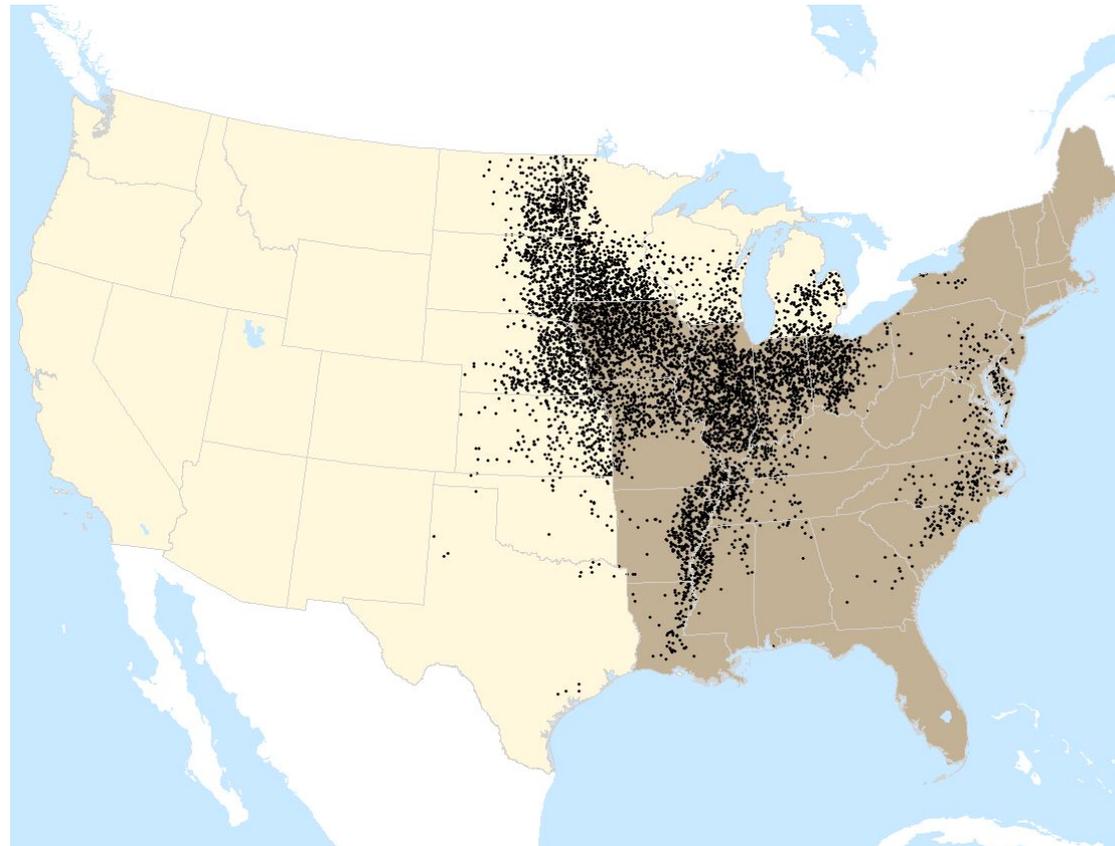
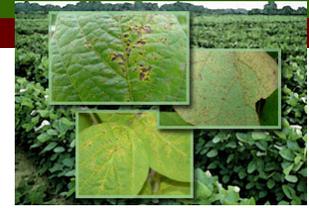
Low Spread Scenario

18 mil. soybean acres (25%)

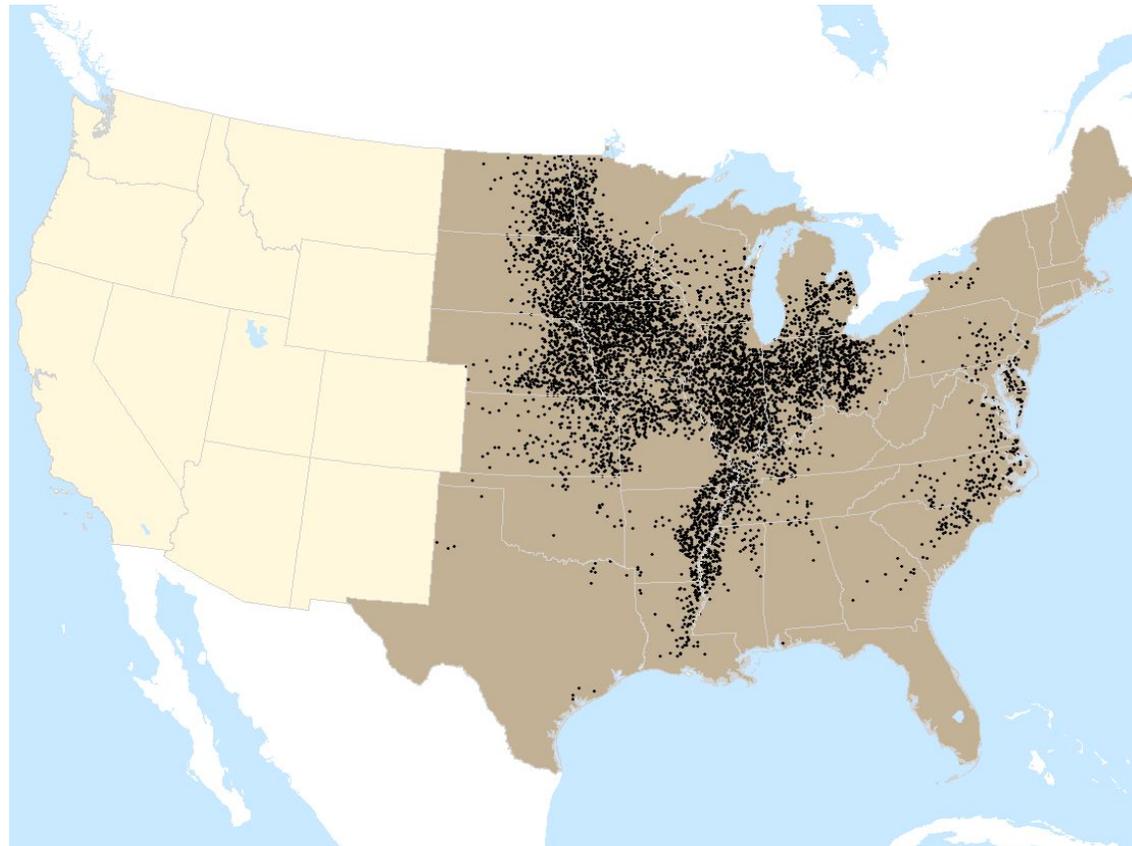
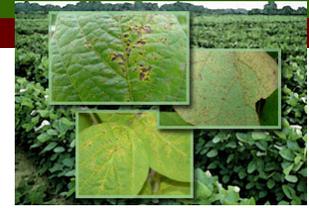


Medium Spread Scenario

57 mil. soybean acres (77%)



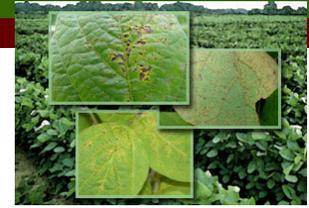
High Spread Scenario 74 mil. soybean acres (baseline)





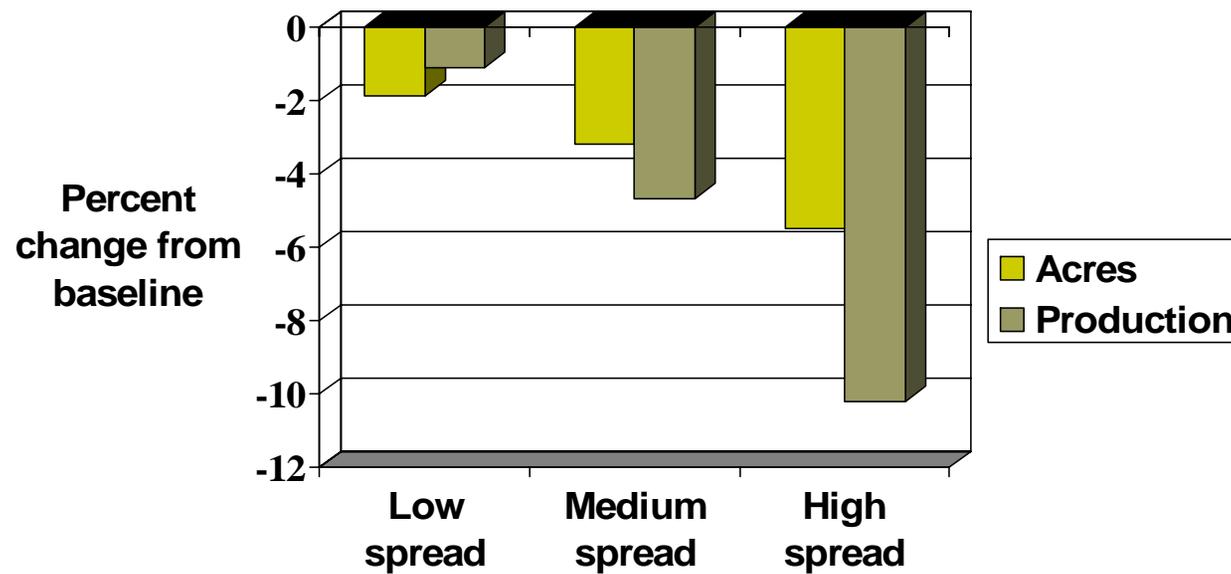
SBR Scenarios

Yield Impact	Regional Infestation		
	Delta, AP, & SE States	Cornbelt & NE States	All other States
1 % Increase	LOW SPREAD		
4 % Decrease	MEDIUM SPREAD		
10 % Decrease	HIGH SPREAD		



Results

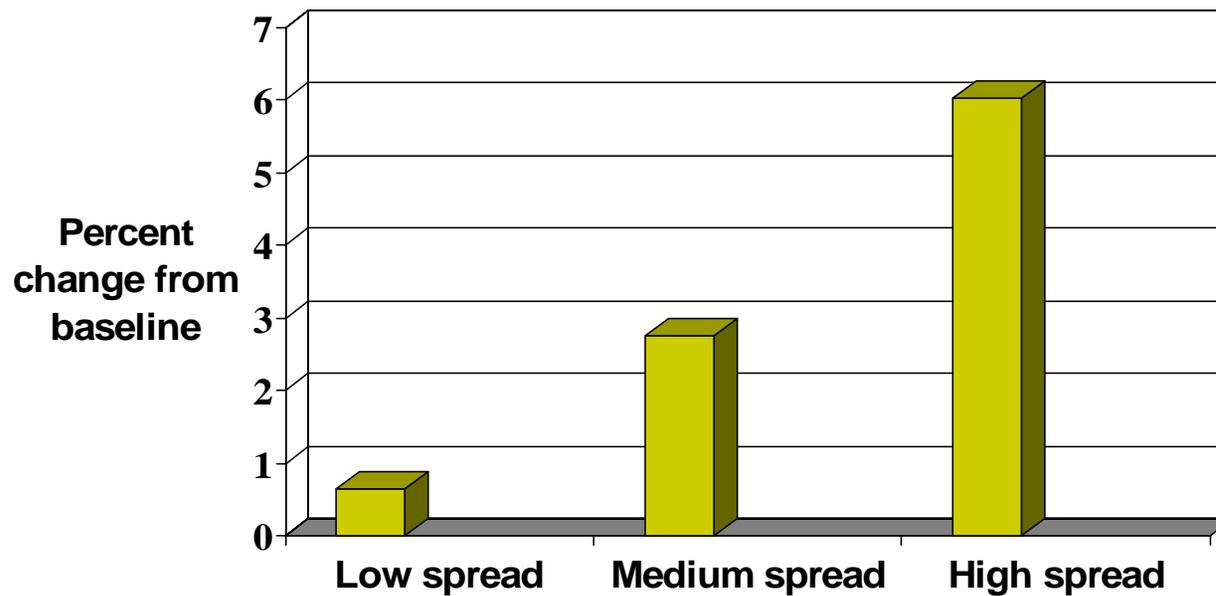
Soybean acres and production response under different SBR scenarios

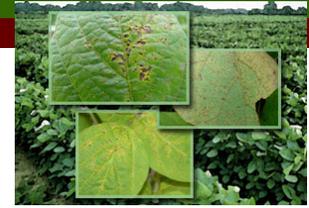


Results



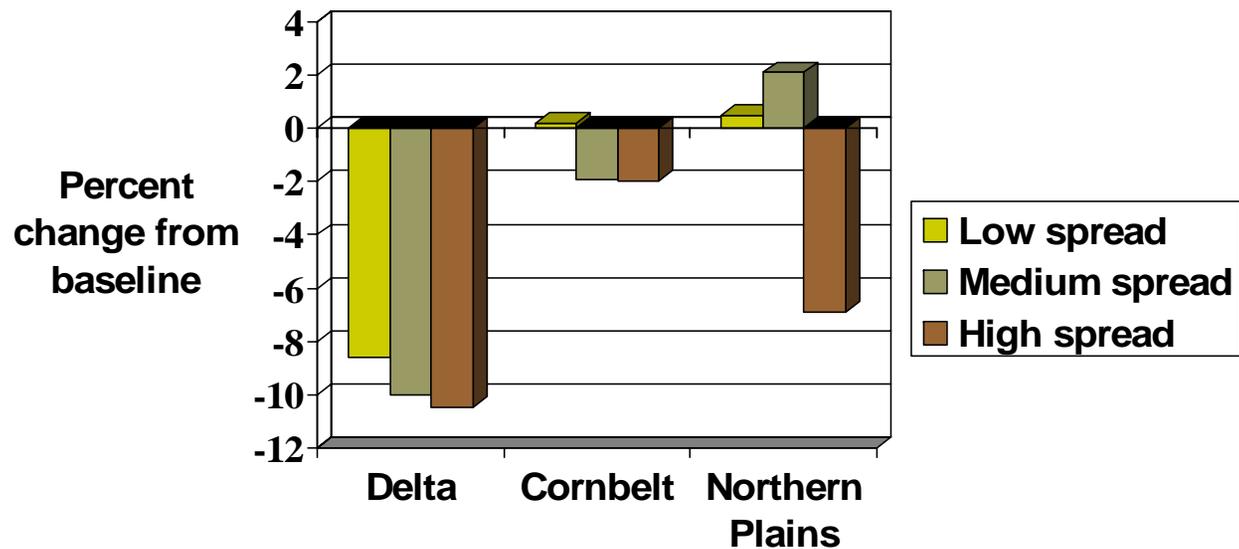
**Soybean price response
under different SBR scenarios**





Results

Regional soybean acreage changes under different SBR scenarios





Discussion

- Fungicide availability and cost
- Well informed producers
 - Active Extension and crop advisor network
 - SBR monitoring and scouting
- Adaptability of U.S. agriculture mitigates impact
 - Changing crop mix or crop rotations?
 - South American experience
 - Soybean aphid experience
 - Safety net programs