

Economist Perspective on “So What?”



**Glynn T. Tonsor, Dept. of Ag. Economics,
Kansas State University**

Email: gtonsor@ksu.edu Twitter: [@TonsorGlynn](https://twitter.com/TonsorGlynn)

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What is “economic impact” when we only observe (estimated) cost of implementing???

Tonsor and Schroeder *Agricultural and Food Economics* (2015) 3:7
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 **Agricultural and Food Economics**
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RESEARCH

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Market impacts of *E. Coli* vaccination in U.S. Feedlot cattle

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1. Estimate adoption cost
2. Set likely 10-year adoption path
3. Use economic model (EDM) to identify:
 - ✓ Impacts without additional benefits (-)
 - ✓ Benefits needed to make producers “indifferent”
 - ✓ Domestic Retail OR Wholesale Export beef demand increase
 - ✓ Retailer OR Packer cost decreases



“Back into” necessary benefits when not observed



Including Economics Often Alters “Optimal Disease Response”

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ECONOMIC IMPACT OF ALTERNATIVE FMD EMERGENCY VACCINATION STRATEGIES IN THE MIDWESTERN UNITED STATES

TED C. SCHROEDER*

University Distinguished Professor, Agricultural Economics, Kansas State University, Agricultural Economics, Waters Hall, Kansas State University

DUSTIN L. PENDELL

Associate Professor, Agricultural and Resource Economics, Colorado State University

MICHAEL W. SANDERSON

Professor, Production Medicine, Kansas State University

SARA MCREYNOLDS

Graduate research assistant, Pathobiology, Kansas State University



Including Economics Often Alters “Optimal Disease Response”

Table 1. Summary of Foot-and-Mouth Disease Outbreak Scenarios

Scenario Name ^a	Vaccine Strategy ^b	Vaccination Capacity (Herds, Day 22, Day 40) ^c	Vaccination Trigger (Herds) ^d	Size of Vaccination Zone (km) ^e
NOVAC	None	—	—	—
D5/10/10	V2D	5,10	10	10
L5/10/10	V2L	5,10	10	10
D1/10/10	Vfd2D	1,3	10	10
D5/10/50	V2D	5,10	10	50
L5/10/50	V2L	5,10	10	50
D1/10/50	Vfd2D	1,3	10	50
D5/100/10	V2D	5,10	100	10
L5/100/10	V2L	5,10	100	10
D5/100/50	V2D	5,10	100	50
L5/100/50	V2L	5,10	100	50
D50/10/10	V2D	50,80	10	10
L50/10/10	V2L	50,80	10	10
D50/10/50	V2D	50,80	10	50
L50/10/50	V2L	50,80	10	50

No FMD Vac Strategy

- \$11 billion gov't costs
- \$188 bil private loss

VS

High-Capacity, FMD Vac Program WITH Large Vac Zone

- \$1 billion gov't costs
- \$56 bil private loss



Private-Public Considerations

- Private decision
 - Invest where MY benefits > MY costs
 - May partially capture impact on neighbors, broader industry, etc.
 - Will reflect changes in livestock-meat markets!
- Public decision
 - Take action so SOCIAL benefits > SOCIAL costs



Private-Public Considerations

- Consider ind. animal ID in beef cattle industry

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Evolving beef export market access requirements for age and source verification



Dustin L. Pendell^{a,*}, Glynn T. Tonsor^b, Kevin C. Dhuyvetter^b, Gary W. Brester^c, Ted C. Schroeder^b



Private-Public Considerations

- Consider ind. animal ID in beef cattle industry
 - Small + in exports (~S. Korea) offsets AGGREGATE costs of ASV
 - Segment of producers would be better w/o ASV & losing mkt access
 - **What is socially optimal is not necessarily optimal for every individual!**

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Take-Home Points!



- ✓ “Backing into” indifference points can guide policy decision making
 - Rarely will both costs & benefits be cleanly observed ex ante
- ✓ Economics impacts (privately & socially) should be accounted for
 - Omission of economics leads to “surprising producer behavior” conclusions
- ✓ Private & Public incentive differences underly “biosecurity dilemma”
 - Incorporating diverse set of economic incentives is key



More information available at:



This presentation will be available in PDF format at:

<http://www.agmanager.info/about/contributors/individual/tonsor.asp>

Glynn T. Tonsor

Professor, Dept. of Agricultural Economics, Kansas State University

Email: gtonsor@ksu.edu Twitter: @TonsorGlynn



Behavioral approaches to reducing the impact of livestock pests or disease outbreaks



United States
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Agriculture

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of Food and
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