



From Farm to Table — Food System Biosecurity for Animal Agriculture

Identifying Risks, Challenges and Solutions

April 4-7, 2016 • Kansas City Marriott Downtown, Kansas City, MO

hosted by **NIAA** National Institute for
Animal Agriculture



Economics of Biosecurity ***Small Ruminant Committee Meeting***

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April 5, 2016

This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2015-69004-23273. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.



Domestic Biosecurity Adoption Considerations

- Private decision
 - Invest where MY benefits = MY costs
 - May partially capture impact on neighbors, broader industry, etc.
- Just because a biosecurity measure “works” doesn’t mean it will be 100% implemented
 - Feasibility, awareness, and net econ. value are key
 - E.coli vaccines for fed cattle are prime example



Domestic Biosecurity Adoption Considerations

- Private economic incentives \neq public's
 - USDA doesn't benefit from hog price increase in “year of PEDv” like far-fin producer
 - Livestock producer only reaps portion of total industry's impact from losing export access
 - Consider economics behind individual ID discussions



Imports & Regionalization

- Limited peer-review work in area
- Ferrier's 2008 *Ag. & Resource Econ Review*
 - Trade barriers can drive large int'l price differences
 - Large price differences encourage smuggling
 - “Illicit trade is driven by high profits and not low morals.”



Regionalization

- Ferrier's 2008 *Ag. & Resource Econ Review*
 - Smuggling is more prevalent when:
 1. Demand &/or Supply is more inelastic,
 - Volumes don't change much so price impacts are larger
 2. When there are few trade partners,
 - Limits ability to replace banned imports, so price impacts grow
 3. When penalties or prob. of detection are low



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 3. When penalties or prob. of detection are low
 - **Regionalization may increase smuggling**



Regionalization

Smuggling Incentives Thought Exercise

Suppose:

1. Region 1 is a higher quality premium producer,
2. Region 2 is land-locked & Region 1 has port,
3. In 2015 both regions export to the U.S.



Regionalization

Smuggling Incentives Thought Exercise

Suppose a) Region 1 is a Higher Quality producer (\$0.10/lb premium),
b) It costs \$0.20/lb to Transport from land-locked Region 2 to port Region 1, and
c) in 2015 both regions can export to the U.S.

Region 1

2015 Price=\$1.00/lb

Region 2

2015 Price=\$0.70/lb

Price Spread

2015: \$0.30



Regionalization

Smuggling Incentives Thought Exercise

Suppose U.S. bans imports from Region 2

Region 1

2015 Price=\$1.00/lb

**Post-Ban
Price=\$1.10/lb**

Region 2

2015 Price=\$0.70/lb

**Post-Ban
Price=\$0.50/lb**

Price Spreads

2015: \$0.30

Post-Ban: \$0.60



Regionalization Considerations

- If regionalization may increase smuggling:
 - Should regions be larger from the offset to capture larger % of production?
 - How should likelihood of smuggling be incorporated into ex ante risk assessments and assumptions on regionalizing?



Final Points

- Tonsor has more questions than answers!
- We **MUST** be cognizant of slippery slope toward protectionism in any regionalization discussion
 - Keep “9 billion in 2050” front & center...



More information available at:



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