BANFF PORK SEMINAR
"ADAPTING AND EVOLVING"

Will Consumers Really Pay for Happier Pigs?

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Role of Presentation

- Theme of this year's seminar:

  "<u>BPS 2015 is focused on adapting and evolving</u>. How can we adapt to the challenges we face today as part of an <u>ever-changing industry</u>, while evolving to meet the pressing issues of tomorrow?

  To do so requires <u>knowledge, expertise and forward thinking</u>. It's what enables us to meet those challenges head on, and it's what the Banff Pork Seminar is all about."

  ➢ What role does an economist have?

Background on Economic Fit

- Many are happy economists only ‘have two hands’ …
  - **Supply**
    - Influenced by anything impacting costs of producing, processing, or marketing hogs (or derived pork products)
  - **Demand**
    - Influenced by anything impacting acceptance and valuation of pork products (or sourcing hogs)
- Conversations over animal welfare have many core economic components…

Q: Will Consumers Really Pay for Happier Pigs?

- Answer: **Yes**

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Q: Will Consumers Really Pay for Happier Pigs?

- Answer: **Yes**
  - *But not the way you may think*
    - ***OR PREFER*** …

Current Situation

- Ongoing calls for change (or verification) in Canadian & U.S. Pork Production
  - gestation stalls,
  - transport time,
  - space provision,
  - pain mitigation…

Current Situation

- Calls largely ***NOT*** reflecting "pork purchasing signals" of typical consumer
  - – Limited voluntary differentiation
- More complex signaling for change:
  - – Vocal minority of influential residents
  - – Vote-buy disconnect
  - – Livestock customers

Existing Academic Literature

- Studies limited in overall number and replication
  - Limited funding; few economists focused on AW
  - Only 1 meta-analysis (Lagerkvist & Hess, 2011)
    - based on 24 studies, most in EU

Existing Academic Literature

- Studies on WTP premiums
  - Hypothetical bias or "one-off" studies
  - Many focus on pork chops

- Media coverage of AW has adverse demand impacts

Existing Academic Literature

- Lister et al. (forthcoming):
  - AW less important in purchasing decisions than Price, Safety, Freshness, Taste, Nutrition, Health …

Existing Academic Literature

- Lister et al. (forthcoming):
  - **AW** < price, safety, freshness, taste…

Importance Shares by Product				
	Ground Beef	*Beef Steak*	*Chicken Breast*	*Milk*
Safety	21%	17%	18%	18%
Freshness	20%	19%	21%	20%
Taste	12%	16%	12%	12%
Health	12%	10%	11%	12%
Nutrition	8%	8%	9%	10%
Price	7%	11%	10%	9%
Hormone Free/Antibiotic Free	7%	6%	8%	8%
Animal Welfare	**5%**	**4%**	**4%**	**5%**
Origin/Traceability	3%	3%	3%	2%
Enviornmental Impact	3%	3%	2%	3%
Convenience	2%	3%	3%	2%

Existing Academic Literature

- Lister et al. (forthcoming):
  - **“Social Issues”** < price, safety, freshness, taste…

Importance Shares by Product				
	Ground Beef	*Beef Steak*	*Chicken Breast*	*Milk*
Safety & Freshness	41%	37%	39%	38%
Taste, Health, Nutrition, Price, Conv	41%	47%	44%	45%
HF/AF, AW, Origin/Tr, Env	**18%**	**16%**	**17%**	**17%**

Economic Realities Going Forward

- Outcomes will only partially align with "best" or optimal AW outcomes
  - Economic &/or political optimality will trump "AW optimal"

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- Outcomes will only partially align with “best” or optimal AW outcomes
  - Economic &/or political optimality will trump “AW optimal”
  - Public will give license to utilize only a subset of available production options that ‘technically work’
    - Center for Food Integrity’s Sept. 4, 2013 tweet:

“Science tells us if we <u>can</u> do something.

Society tells us if we <u>should</u> do it.”

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Economic Realities Going Forward

- Outcomes will only partially align with "best" or optimal AW outcomes
  - Vote-buy disconnect will persist & is not unique to pork

Table 2. Willingness to Vote for Restrictions and to Pay Premiums, December 2013		
Production Practice	Vote to Ban/Limit	Pay a Premium
Limit antibiotic use for cattle to only disease treatment	70.9%	48.0%
Ban cattle castration without use of pain control	66.1%	35.9%
Ban use of sow gestation stalls in the swine industry	51.3%	34.9%
Ban use of laying hen cages in the egg industry	49.7%	40.5%

- Short-term "unfunded mandates" will continue…

Economic Realities Going Forward

- Change is occurring and will continue in Canada & U.S.
  - Requires additional documenting on AW issues,
  - Perhaps higher variable costs of production,
  - Perhaps alternative fixed costs, and
  - Certainly more producer uncertainty on "how" to operate …

Economic Implications: General Public

- Heterogeneity of impacts warrants noting...
  - Typical consumer
    - Not WTP premium yet higher prices occur
  - Typical resident
    - Absorbs tax implications (opportunity costs)
  - Highly concerned consumer or resident is likely better off *relative to typical*

Economic Implications: Producers & Industry

- “Unfunded mandate”
  - Change is required yet not immediately paid for
- Uncertain future of regulation & public accept.
  - Investment falls as uncertainty rises

Economic Implications: Producers & Industry

- Regional comparative advantage changes?

- Global comparative advantage changes?
  – Global demand growth critical for Canada & U.S.

Context on Global Comparative Advantage Impacts

- <u>Do pork importers value AW changes?</u>

Pork imports (thousand metric tons, carcass wt.), long-term projections (as of Nov. 2013)			
	2013	2023	% Change
Japan	1240	1330	7%
China	750	1194	59%
Hong Kong	400	487	22%
South Korea	400	544	36%
Russia	900	812	-10%
Mexico	785	1097	40%
Central Am./Car.	118	185	57%
Canada	235	288	23%
US	389	443	14%
Major Importers	5217	6379	22%

Source: USDA OCE, Nov. 2013 (http://www.ers.usda.gov/publications/oce-usda-agricultural-projections/oce141.aspx)

Context on Global Comparative Advantage Impacts

- <u>How do pork exporters compare on AW changes?</u>

Pork exports (thousand metric tons, carcass wt.), long-term projections (as of Nov. 2013)

	2013	2023	% Change	2013 Export Shares	2023 Export Shares
Brazil	600	661	10%	9%	8%
Canada	1245	1350	8%	19%	17%
Mexico	110	151	37%	2%	2%
EU	2204	2423	10%	33%	31%
China	250	383	53%	4%	5%
US	2292	2901	27%	34%	37%
Major Exporters	6701	7869	17%		

Source: USDA OCE, Nov. 2013 (http://www.ers.usda.gov/publications/oce-usda-agricultural-projections/oce141.aspx)

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- Short-Term: **NO**
  - Lack of revealed WTP and voluntary product differentiation…
    - So changes largely are NOT being "pulled" into practice

Q: Will Consumers Really Pay for Happier Pigs?

- Longer-Term: **YES**
  - Outcome is higher pork prices when increased production costs are realized…
    - Consumers also "pay" given less pork available
      - So the entire industry "pays"!!!

➢ <u>So changes are mainly "pushed" into practice</u>

Q: Will Consumers Really Pay for Happier Pigs?

- Short-Term: **NO**
- Longer-Term: **YES**

  - – **Maintain Context:**
    - World wants more pork +
    - Canada & U.S. positioned to provide it =
      - ➢Can "absorb and pass on" associated costs of AW issues

Wrap-Up

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- Consider fate of rotary phones, door-to-door sales…
  - ➢Better to accept change and adapt than to resist "at all costs"…
    - ➢Adjusting and/or documenting practices w/r/t AW is now a cost of doing business

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- Theme of this year's seminar:

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- Consider fate of rotary phones, door-to-door sales…
  - Better to accept change and adapt than to resist "at all costs"…
    - Adjusting and/or documenting practices w/r/t AW is now a cost of doing business
  - **IN A GOOD INDUSTRY!!!**

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

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Lister, G. et al. "Food Values Applied to Livestock Products." *Journal of Food Products Marketing*. Forthcoming

- Food Values Descriptions

Freshness	The expected freshness of the product as indicated by expiration date and visual perception of the food product
Taste	The extent to which consuming the product is appealing to the senses including flavor, smell, and texture
Price	The price per unit paid for the food product
Safety	With proper handling, consuming the product will not cause illness
Convenience	The ease with which the product can be prepared and/or consumed including preparation and cooking time
Nutrition	The extent to which consuming the product provides essential nutrients such as protein, carbohydrates, vitamins, and minerals. Also, how consuming the product provides necessary calories and energy, as part of a daily diet
Health	The extent to which consuming the product positively contributes to long term health including the amount and type of fat and cholesterol in the product
Origin / Traceability	The extent to which the locations and identities of producers and processors are known
Hormone Free / Antibiotic Free	Whether the animal source of the food product was produced using added hormones or antibiotics
Animal Welfare	The extent to which the animal source of the food product was raised using animal friendly physical and psychological means
Environmental Impact	The extent to which production and marketing of the food product impacts the environment locally, regionally, and globally

Economic Realities Going Forward

- Outcomes will only partially align with “best” or optimal AW outcomes
  - Not unique to pork industry:

Table 1. Percent of U.S. Production in States Allowing Initiative Process

Wheat (Bushels production, 2013)	61.3%
Cow-Calf (Beef Cows, 2014)	55.2%
Dairy (Pounds milk production, 2012)	49.1%
Feedlots (Cattle on feed in lots with 1000+ capacity, 2014)	48.0%
Soybean (Bushels production, 2013)	39.9%
Corn (Bushels production, 2013)	35.1%
Eggs (Dozen production under contract, 2007)	33.8%
Broilers (Head production under contract, 2007)	31.9%
Hogs (Pounds production, 2012)	23.9%