Marketing, Consumers and Credence Attributes –

Are Commodities Still Commodities?

Ellen Goddard, University of Alberta Presented at Centre for Organizational Governance in Agriculture Leadership in a Regulated Environment – How to Move Agriculture Forward, Abbotsford, October 26, 2012



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Make healthy choices









Beretta



Beretta Ranch livestock is:

*Raised without the use of antibiotics, hormones or steroids. (We give hugs, not drugs)

*Vegetable/grain fed without the use of animal by-products. (We are what we eat)

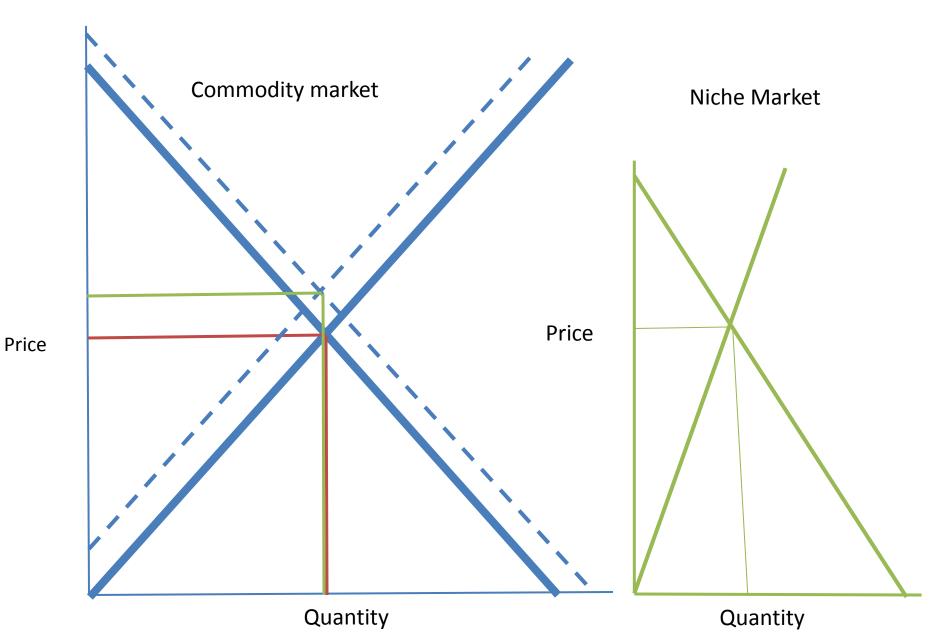
*Raised in Ontario.

(We keep it real... real close. We support farms that are local to the Greater Toronto Area)

*Canadian Angus Rancher endorsed. (Triple A Angus beef is how we roll)



How do niche markets work?











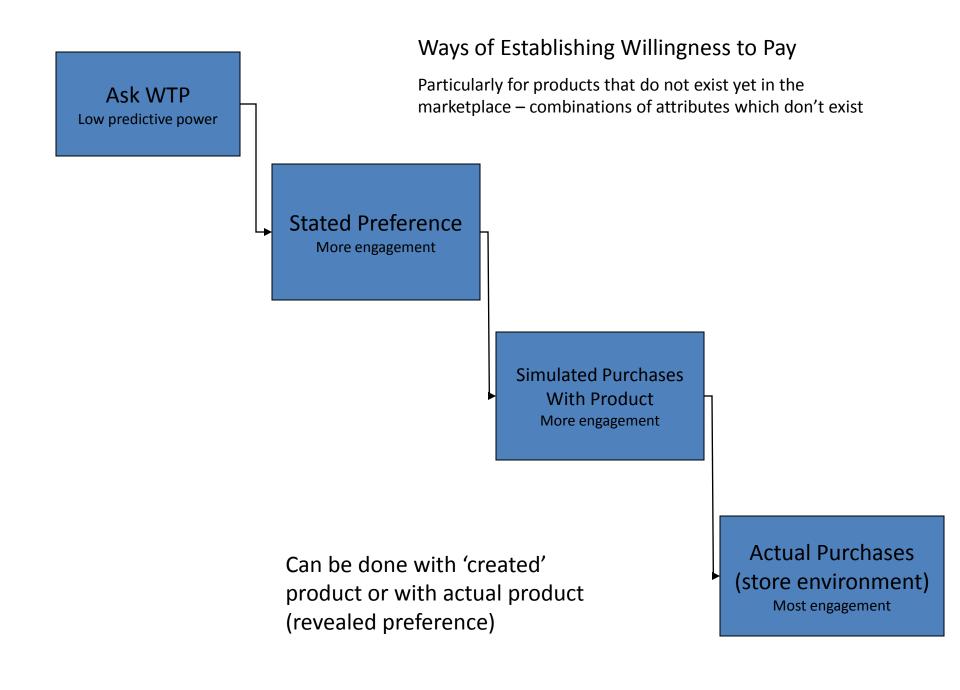












Shell Eggs

Patrycja Romanowska, Getu Hailu, John Paul Emunu, Curtis Boyd, Andre Asselin, Amanda Neall and other capstone course undergraduate students

- Highly differentiated in the market conventional white, brown, large medium or small, free run, free range, Omega- 3, vitamin enhanced, organic, vegetarian
- Usually prices are regulated in the egg market for the conventional Grade A eggs
- Prices for the specialty eggs are negotiated between farmers and retailers and often require specific packaging

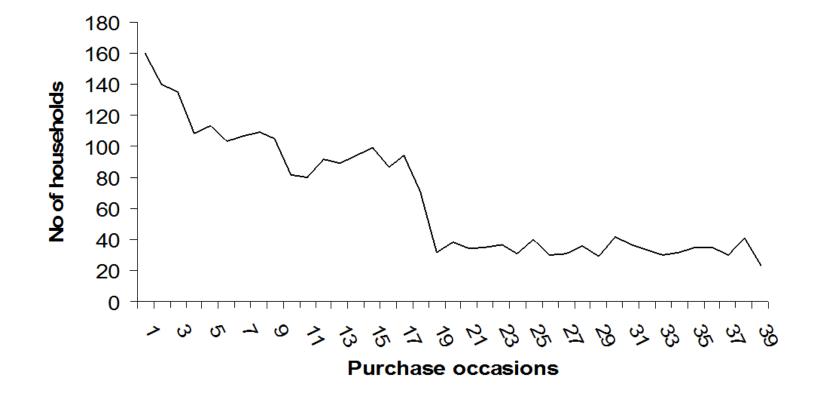
Results from a number of studies

 Used both revealed preference data (actual household purchases Nielsen Homescan[™]) and stated preference data with grocery store intercept, online survey and economic experiments

Revealed Preference Analysis

- Purchased an egg data set from The Neilsen Company
- Alberta sample 2635 households, purchases over a 39 month period from February 2002 to January 2005

Summary of Purchase Occasions



Shell Egg Purchase combinations

Egg Purchase	Original Data File	Sample Data
One Type		
Normal	1830	155
Omega	8	-
Free Range/Run	6	-
Organic	13	_
Total	1857	155
Two Types		
Normal\Free Range	48	2
Normal\Omega	59	7
Normal\Organic	480	94
Normal\Vitamin	15	3
Omega\Free Range	6	-
Omega\Organic	2	1
Omega\Vitamin	3	-
Free Range\Organic	2	-
Free Range\Vitamin	2	-
Organic\ Vitamin	1	-
Total	618	107
Three Types		
Normal\Free Range\Organic	18	4
Normal\Free Range\Vitamin	4	-
Normal\Omega\Free Range	10	-
Normal\Omega\Organic	35	9
Normal\Omega\Vitamin	18	6
Normal\Organic\Vitamin	10	1
Omega\Free Range\Organic	4	-
Omega\Free Range\Vitamin	1	-
Omega\Organic\Vitamin	1	-
Free\Organic\Vitamin	1	-
Total	102	20
Four Types		
Normal\Free Range\Organic\Vitamin	7	3
Normal\omega 3\Free range\organic	17	1
Normal\Omega \Free Range\Vitamin	5	-
Normal\Omega \Organic\Vitamin	15	2
Omega\Free Range\Organic\Vitamin	2	-
Total	46	6
Five Types		
Normal\Omega 3\Free		
Range\Organic\Vitamin	12	4

Table 15. Shell Egg Purchase Combinations, Alberta Purchases

General Results

- Households with children more likely to purchase organic
- Older head of household more skeptical about specialty eggs
- Higher income more likely to purchase specialty eggs
- Generally not a high (revealed) willingness to pay for specialty eggs- but we don't know anything about the attitudes of these household members

Stated Preference

- Two surveys of Edmonton egg consumers
- First, face to face, questions about 'health' attribute eggs- normal, vitamin enhanced, omega- 3
- Second, internet, questions about 'production' attribute eggs- organic, vegetarian, free run/range
- Include in analysis the following attitudes
 - Health consciousness
 - Health behaviour
 - Concerns about environment
 - Concerns about animal welfare

Empirical results : Intercept

- Health conscious more likely to purchase organic, free run, vegetarian eggs
- Households with children more likely to purchase organic
- Families with children and older heads of households are more price responsive than other households
- Higher willingness to pay for free run than for organic or vegetarian

Empirical results: Internet

- Health conscious consumers are willing to pay more for Omega-3 and Vitamin –enhanced eggs (note that the premia in this study for 'healthy eggs are lower than the premia for 'production attribute' eggs in the previous study)
- Older heads of households and families with children are more price responsive
- Households with children not willing to pay for Omega-3 or Vitamin-enhanced

Different Egg Study: 2009

- Question is whether or not certain attributes need to be certified – validated by external agents.
- Two studies in July and November 2008 conducted with actual economic experiments and stated preference choices
- Attributes selected include

Willingness to Pay for Certification Attributes: Two Studies

This table shows the premium consumers are willing to pay for certification of different attributes by different agents. WTP is *highest* for pasteurized and vitamin enhanced eggs that were government certified and industry certified for free run. The free run attribute was most highly valued by consumers.

EGG TYPE	Pasteurised		Free Run		Vitamin Enhanced
	Summer	November	Summer	November	November
	2008	2008	2008	2008	2008
AGENT	WTP	as compared t	o generic eg	gs with no certi	fication
No certification		-\$.55		\$.26	\$.28
		(1.27)		(1.64)	(0.91)
Government	\$.85	\$1.22	\$1.16	\$1.42	\$1.38
Certification		(1.07)		(1.27)	(1.82)
Industry	\$.59	\$.46	\$1.02	\$1.47	\$.98
Certification		(1.66)		(1.95)	(1.35)
Farm Level	\$.42	\$.60	\$1.21	\$.69	\$.76
Certification		(1.97)		(1.80)	(1.05)

Traditionally Raised versus Conventional Pork

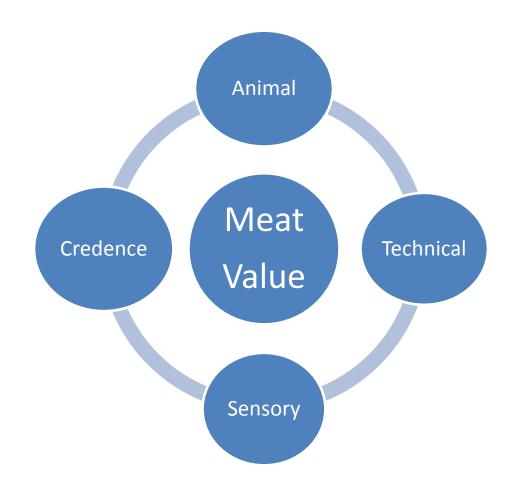
Steve Moore, Graham Plastow, Heather Bruce, Jennifer Janz, Mindy Gerlat,

Lifen Ma and Violet Muringai

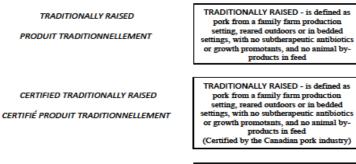
- Study conducted in 2009 and 2011
- Slaughter 200 hogs from two different production systems 'traditionally raised' and conventional
 - collect DNA information, grading information,
 - do meat quality testing on loins,
 - do consumer sensory testing on loins (200 respondents),
 - do economic experiments on packaged pork chops to test WTP for different labelled attributes (same 200 respondents) – also complete survey
 - confirm experimental data with national survey (1600 Canadians)

Integrating Genomics, Meat Science, Consumer Science and Economics to Add Value

to Alberta's Hog Sector



Information Provided to Consumers When Examining Pork Chops



TRADITIONALLY RAISED

TRADITIONALLY RAISED - is defined as pork from a family farm production setting, reared outdoors or in bedded settings, with no subtherapeutic antibiotics or growth promotants, and no animal byproducts in feed (Certified by government)



CQA® promotes best management practices to reduce or eliminate potential on-farm hazards that could compromise the safety of pork.



Canadian Pork identifies fresh pork that is produced from hogs raised in Canada





PORK LOIN CENTER CHOPS BONE LESS

Park chops %*-1" thick, grill 4-6 min per side; 1 1%" thick, grill 6-8 minutes per side. Season chops with sait and pepper. Brush With oil. Grill over medium coals or on a gas grill on medium high heat. Turn and cook to desired doneness. Temperature on meat thermometer should read 160 degrees F.

Safe Handling Instructions This product was prepared from impocted and passed meat and/ or poultry. Some food products may contain bacteria that could case illness if the product is mishandled or cooked improperly. For your protection, follow these safe handling instructions. Keep refrigerated or frozen. Thaw in refrigerator or microwave. Keep raw meat and poultry separate from other foods. Wash working surfaces (including cutting boards), utensils, and hands after touching raw meat or poultry.

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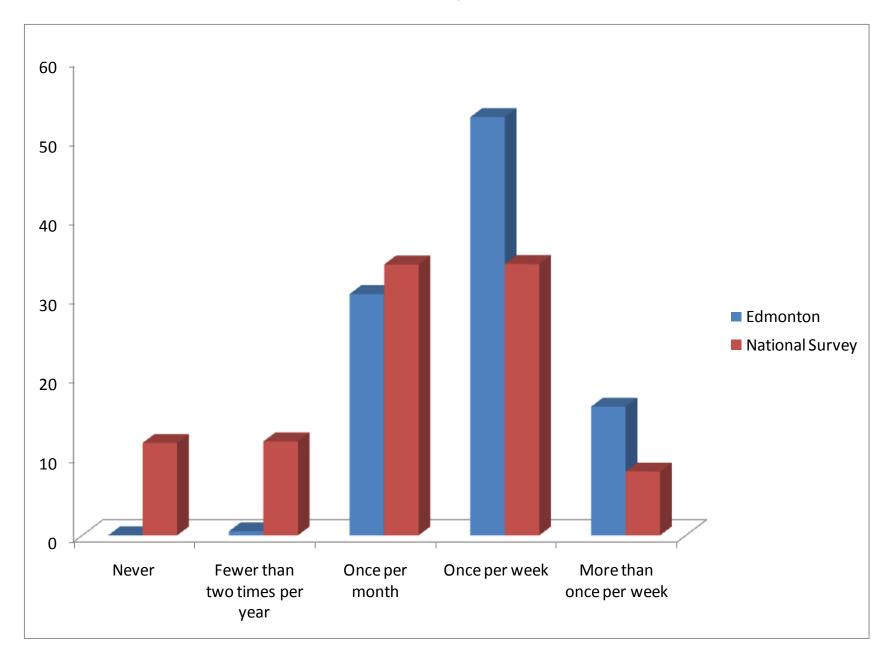
Net Wt/c 0.405 k		Unit Price \$15.43/kg	\$6.25	
Tare	Store No.	Best Before	Total Price	
0.015kg	877	Dec 23, 13		

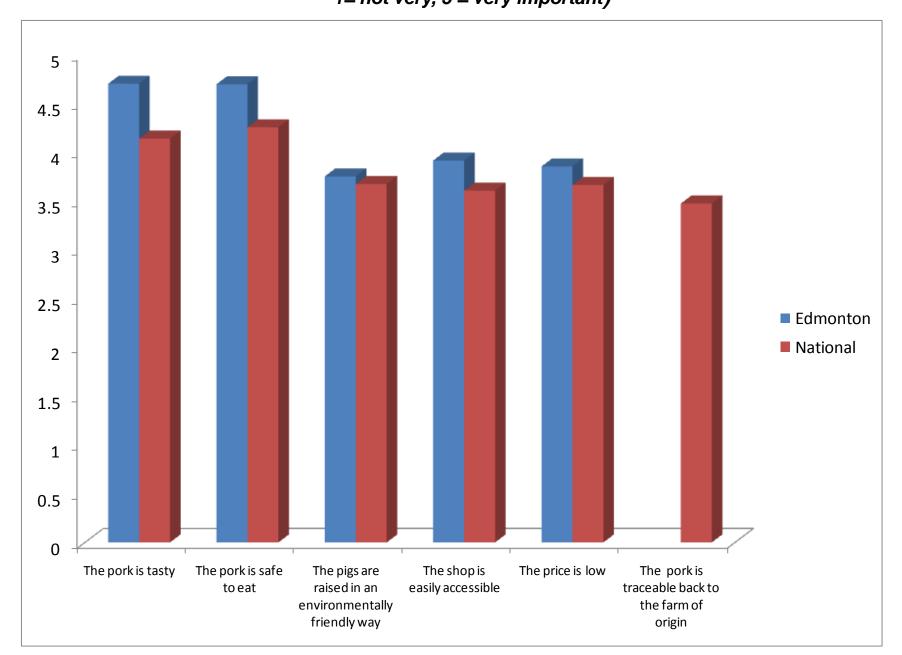
Marbling 2



Marbling 1

How often do you eat pork?





How important are the following when you purchase pork? 1= not very, 5 = very important)

Calculated willingness to pay for pork chops with different attributes, as compared to a conventional pork chop (market average price \$8.82/kg)

Attribute	\$ willing to pay	\$ willing to pay
	Edmonton	National Survey
Canadian Pork	\$1.95	\$4.93
Canadian Quality Assurance®	\$1.34	\$3.22
Certified Traditionally Raised	\$1.94	\$2.42
Government Certified Traditionally Raised	\$3.89	\$3.86
Conventional pork chop with Canadian Pork and Canadian Quality Assurance®	\$5.70	-\$2.31
Meat Quality Indicator Colour L*	- \$0.13	
Marble 1		\$0.73

Results

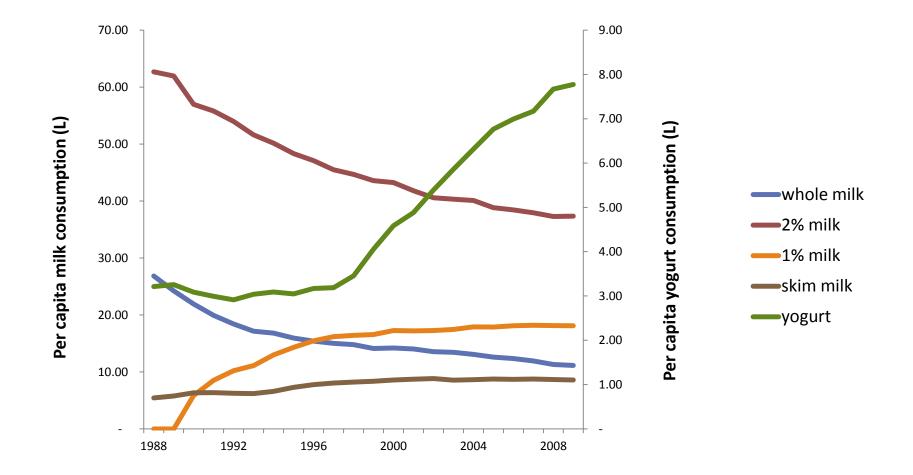
- More give in the system when you look at the national sample with a lower average pork frequency of consumption
- More to attract some non regular pork consumers

Milk versus Yogurt - what determines sales?

Shannon Allen and Anna Farmer

- Designed and implemented an online survey which identifies the drivers of current self reproted consumption and the stated preferences for milk yogurt products which do not exist yet in the market.
- The national survey was fielded in early 2011 and 1700 Canadians completed the survey

Canadian per capita consumption of dairy products⁽³⁾



Choice Experiment - Experimental Design

Price (milk)	Price (yogurt)	Fat Content	Nutrition Label	Health Check™	Probiotic	Vitamin Enhanced
\$3.50	\$4.50	0% (skim)	Mandatory	No	No	No
\$4.00	\$5.50	1%	Voluntary	Yes	Yes	Yes
\$4.50	\$6.50	2%				
\$5.00	\$7.50	3.25% (whole)				

Prices are for a 2L carton of milk (average retail price: \$3.50) or an 8 x 100g package of yogurt (average retail price: \$5.50).

Experimental Design – Nutrition Label

• Nutrition Facts Panel:

(became mandatory in Canada in 2005)

Mandatory:

Nutrition Facts Valeur nutritive Per 1 cup (250 mL) serving/ par portion de 1 tasse (250 ml	-)
Amount	% Daily Value
Teneur	% valeur quotidienne
Calories / Calories 90	
Fat / Lipides 0 g	0 %
Saturated / saturés 0 g	0 %
+ Trans / trans 0 g	
Cholesterol / Cholestérol 0 mg	
Sodium/ Sodium 125 mg	5 %
Carbohydrate / Glucides 12 g	4 %
Fibre/ Fibres 0 g	0 %
Sugars/ Sucres 12 g	
Protein/ Protéines 8 g	
Vitamin A / Vitamine A	10 %
Vitamin C / Vitamine C	0 %
Calcium/ Calcium	30 %
Iron / Fer	0 %

Voluntary:

Nutrition Facts Valeur nutritive	
Per 1 cup (250 mL) serving/	
par portion de 1 tasse (250 mL)
par ponton de 1 tasse (250 mil	.)
Amount	% Daily Value
Teneur	% valeur quotidienne
Calories / Calories 160	
Fat / Lipides 8.0 g	13 %
Saturated / saturés 5.0 g	26 %
+ Trans / trans 0.2 g	
Cholesterol / Cholestérol 30 mg	
Sodium/ Sodium 125 mg	5%
Carbohydrate / Glucides 12 g	4 %
Fibre/ Fibres 0 g	0 %
Sugars/ Sucres 12 g	
Protein/ Protéines 8 g	
Vitamin A / Vitamine A	10 %
Vitamin C / Vitamine C	0 %
Calcium/ Calcium	30 %
Iron / Fer	0 %
Vitamin D / Vitamine D	45 %
Thiamine / Thiamine	8 %
Riboflavin / Riboflavine (B2)	35 %
Niacin / Niacine	10 %
Vitamin B12 / Vitamine B12	50 %
Pantothenate / Pantothénate	10 %
Phosphorus / Phosphore	25 %
Magnesium / Magnésium	15 %
Zinc / Zinc	10 %

Experimental Design - Health CheckTM

•The Health Check[™] symbol was only shown if the product actually met the Health Check[™] criteria.



Health Check[™] criteria:

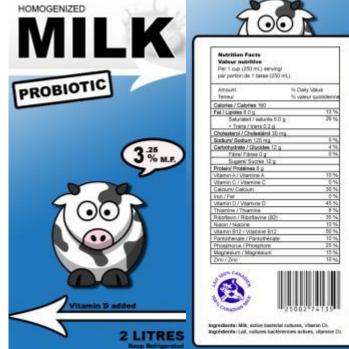
Milk (per 250mL)	Yogurt (per 175g)
2% milk fat or less	2% milk fat or less
Minimum 25% of daily calcium	Minimum 15% of daily calcium
240mg or less of sodium	140mg or less of sodium
No added sugar	No added sugar

Choice Experiment Example - Milk



Price: \$3.50

A) I would choose this option



Price: \$5.00

B) I would choose this option

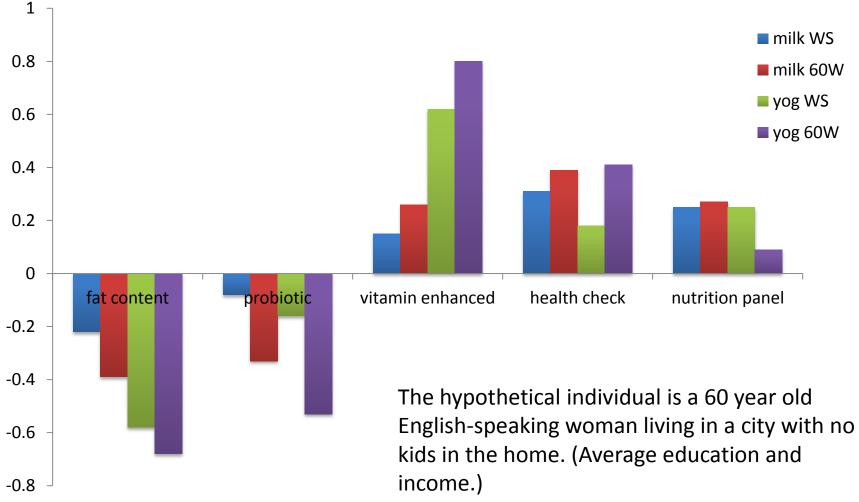
C) I would choose neither of these options

Mean Willingness to pay (WTP)

Attribute	Milk - WTP (in \$CAD)	Milk - SE	Yogurt - WTP (in \$CAD)	Yogurt - SE
Fat content	-0.22**	0.024	-0.58***	0.040
Probiotic	-0.08	0.064	-0.16**	0.079
Vitamin				
Enhanced	0.15***	0.051	0.62***	0.081
Health Check [™]	0.31***	0.052	0.18**	0.085
Nutrition Panel	0.25***	0.039	0.25***	0.065

Prices are for a 2L carton of milk (average retail price: \$3.50) or an 8 x 100g package of yogurt (average retail price: \$5.50).

General population vs. at-risk individual



Trends in effects of health beliefs

Variable positively predicts avoiding fat in milk/yogurt		
Perceived pleasantness (self-reported behaviour)	v	
Perceived pleasantness (stated preference)	×	
Nutrition knowledge (self-reported behaviour)	×	
Nutrition knowledge (stated preference)	~	
Food plays a role in health	~	
Perceived severity of osteoporosis	v	

- People with higher perceived benefits of dairy consumption are more likely to consume milk/yogurt.
- Perceived pleasantness, susceptibility, severity, and health motivation are the constructs which affect acceptance of new attributes in both milk and yogurt. Self-efficacy and perceived barriers also play a role in the acceptance of new attributes in yogurt.

Overall Results

- In all three cases it is easy to identify demographic segments of the population that would rather purchase 'niche' items than commodity items
- For many of these 'niche' characteristics it is necessary to have third parties verify/certify the attributes to maximize uptake by consumers and value for producers
- As well as demographics frequency of current purchase can influence desire for 'niche' attributes – it appears that those who are high frequency consumers care less about the addition of 'niche' attributes
- The motivation for 'niche' attributes is less than clear in some cases it appears that a desire for health is driving the demand for free run eggs more than for Omega-3 eggs or vitamin enhanced eggs – is this because of misperception about how Omega-3 or vitamins are added to these livestock products
- Revealed preference data suggests significant premia for niche markets the existence of niche markets should be good for producers of conventional product as well as niche marketers -rather than ignoring the niche markets in general perhaps they should be encouraged through facilitating certification.
- More work is necessary on motivation to properly determine the types of products that will flourish in different sectors

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- The Canadian Dairy Commission
- Alberta Advanced Education and Technology
- <u>http://www.heartandstroke.com/site/c.ikIQLcMWJtE/b.3483961/k.FBE9/Health_Check8482_Designed_to_help_you_make_healthy_food_choices.htm</u>
- <u>http://www.sharemastro.com/natura/</u>
- <u>http://wakeup-world.com/2011/09/15/10-great-reasons-to-eat-local-food-where-you-can-pick-your-own/</u>
- <u>http://www.loblaws.ca/LCLOnline/products.jsp?productId=20024&type=details</u>
- <u>http://www.burnbraefarms.com/consumer/our_products/omega_pro_liquid.htm</u>
- <u>http://www.nationalegg.ca/freerun.php</u>
- <u>http://dawhois.com/site/berettaranch.ca.html</u>
- <u>http://www.21food.com/showroom/81615/aboutus/novo-marketing-inc..html</u>