

Iodine residues in bulk-tank milk: Economic versus consumer imperatives

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Problem of iodine in milk?

In Canada, mastitis costs on average \$382 per cow, per year (\$27,891 per farm per year). One effective way to reduce those revenue losses is to use iodine-based teat disinfectants; however, their use can lead to excess iodine residues in milk. Milk is a major source of iodine intake among consumers. Excess iodine could become a consumer health problem, especially for children under 8 year of age who drink a lot of milk (Health Canada).

Who cares?

- To what extent do Canadian dairy producers prioritize consumer concerns?
- What is the profile of producers for whom economic imperatives are more important than consumer health and confidence in milk?

Methodology

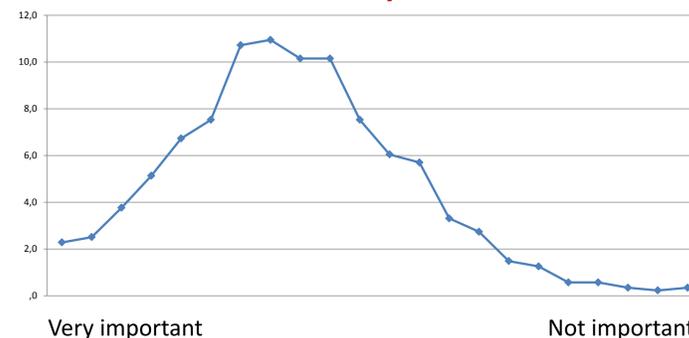
2012 survey data from 970 dairy producers in Alberta, Ontario, Quebec & PEI were analyzed. Spearman's bi-variate correlation coefficients and an OLS regression model were used to determine which attitudes and behaviors would best explain reluctance to put consumer health and confidence in milk quality above the economic imperative of controlling mastitis.

Results

Dairy producers prioritized mastitis control over iodine control

Aware of concerns about iodine excess in milk	86%
Iodine excess will lead to decreased consumer confidence in milk	71%
Prioritize mastitis control over excess iodine	83%
Excess iodine in milk is safer than excess microbes	41%
Very worried about mastitis	76%
If reduce iodine teat disinfectants, then mastitis will increase	56%
Udder disinfectants & milking procedures cause excess iodine	66%
Dietary components cause excess iodine	39%

Importance of consumer health & confidence was moderately rated.



Conclusions

Canadian dairy producers appeared to be less concerned about consumer health and confidence in milk and more concerned about mastitis control.

Those who were most concerned about consumers:

- Were aware of iodine excess concerns
- Were less annoyed by mastitis and felt it is controllable
- Did not prioritize mastitis over other issues on their farm
- Believed iodine excess might come from disinfectants
- Cared about their cows' welfare and what others think
- Were older
- Were using a parlor milking system



Which producers prioritize economics?

Regression ANOVA d.f=15; sig.=0.000; Adj. R² =0.225

	Coeff	Sig
Unaware & do not need information		
Unaware of concerns about iodine excess in milk	1.16	.002
Does NOT need more information about iodine	.49	.059
Find mastitis annoying, uncontrollable and important		
Mastitis is annoying	.22	.002
Mastitis is inevitable	.14	.011
Managing mastitis is FOREMOST on their mind	.60	.002
Mastitis control is MORE important than iodine control	.58	.000
Iodine disinfectants are UNLIKELY source of iodine in milk	.08	.001
Cow welfare is NOT important		
Careful attention to cow hygiene is INEFFECTIVE against mastitis	.16	.003
RARELY separate or treat cows with high cell counts	.11	.018
Are NOT patient with disobedient cows	.44	.011
Younger, using modern equipment & don't care what others think		
Age (older prioritize consumer concerns)	-.05	.000
Type of milking system used (1=parlor; 2=pipeline; 3=robotic)	.54	.055
Do NOT care what others think about their dairy	.35	.014
Gender (2=male)	.63	.124
Approximate total farm income before taxes in 2011	.00	.990

Implications

Need continued efforts to convince producers that:

- Excess iodine could become a major scandal.
- It is better to avoid potential controversy by adopting BMPs* for controlling BOTH excess iodine and mastitis.
- Mastitis is not inevitable and can be controlled.
- Attention to cow welfare and hygiene is important.
- Modern equipment does not automatically increase cow hygiene nor milk quality.

*Best Management Practices
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