



May 2010

Volume 3, Issue 8

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Food for Thought

Since last census:

- Number of farms down 7.1%
- Large farms increased 13.8%
- Small farms decreased 10.5%
- Average acreage in crops:
 - Canada: 455
 - BC: 99
- Average age of a farmer: 52

2006 Canada Census

Listeria survival, interventions & monitoring. Are you in control?

Over \$20 million dollars spent on a recall and law-suits of \$27 million define the costly financial saga of the 2008 listeriosis outbreak associated with Maple Leaf ready-to-eat (RTE) deli-meats.¹ The human costs? 57 confirmed illnesses and 22 deaths. Sanitation of the entire plant using several types of disinfectants (quats, peroxyacetic acid, gels, granular compounds and alcohols) were all used to remove *Listeria* from equipment and food contact surfaces in the plant¹.

Why is *Listeria* such a persistent bacterial contaminant? What makes this pathogen such a risk for RTE foods, especially in meats, dairy products and fish? How can businesses monitor for *Listeria* effectively in their plants, and find problems before they enter RTE foods? Is *Listeria* present in foods or the environment of

our provincially licensed RTE meat, dairy and fish plants?

On June 15, at the Delta Vancouver Airport Hotel, the BC Food Protection Association has planned a special speaker's evening with an exciting panel of experts to answer these questions.

Ms. Jovana Kovacevic, is currently a Food Safety Specialist with the BC Centre for Disease Control. Jovana's background is in food microbiology, including extensive work with *Listeria monocytogenes*, biofilms, environmental sampling and sanitation. Her latest work on evaluation of environmental sampling methods and rapid detection assays for *Listeria* spp. was published in the Journal of Food Protection, and

it was the featured article and most widely read manuscript for the month of April, 2009. She holds a MSc in Food Science and Technology from the University of Alberta and is embarking on a PhD this fall with Dr. Allen at UBC.

Our first speaker, Ms. Jovana Kovacevic will start the evening with results of a *Listeria* survey conducted in 2009 in provincially licensed meat, fish and dairy RTE food processing plants in BC.

Dr. Kevin J. Allen is an Assistant Professor of Food Microbiology at the University of British Columbia. Prior to coming to UBC, Dr. Allen was a Research Manager at Bioniche Life Sciences Inc. where he was involved in developing pre-harvest vaccine-based intervention strategies for *Campylobacter jejuni*, *Escherichia coli*

"Providing a forum to exchange information on protecting the food supply"

Listeria survival, interventions & monitoring. Are you in control? (Cont'd)

O157:H7, and *Salmonella* Enteritidis in food production animals. Also, Dr. Allen has worked in industry as a Quality Assurance technician with Mead Johnson and for governments (Public Health Agency of Canada's Laboratory for Foodborne Zoonoses). At UBC, Dr. Allen's research program focuses on understanding the mechanisms used by foodborne pathogens that facilitate survival and transmission along the food distribution network. This requires understanding how food-related stresses impact bacterial physiology and adaptive processes.

Our second speaker, Dr. Kevin Allen will discuss *Listeria's* unique attributes that contribute to the organism's presence in foods and food production environments. A focus will be placed on illustrating the physiological mechanisms which *Listeria* uses to survive

intervention measures and will be followed by a discussion focusing on how physiological data can be used to design new, more effective intervention strategies for reducing foodborne listeriosis.

Dr. Jeffrey M. Farber is currently the Director of the Bureau of Microbial Hazards, Food Directorate, in the Health Products and Food Branch of Health Canada, where he leads a group of 60 people in research and policy on a wide range of issues dealing with microbial food safety. Dr. Farber has extensive experience working at the international level with FAO/WHO and is currently the alternate Codex Canadian head of delegation for the Committee on Food Hygiene. Dr. Farber is **Past-President of the International Association for Food Protection**, co-Chairman of the Canadian Listeriosis Reference Service, and a member and Treasurer of the ICMSF. This year,

Dr. Farber was awarded the **Prime Minister of Canada's Outstanding Achievement Award of the Public Service of Canada**, only the second person ever to receive this award in Health Canada.

Our final speaker Dr. Jeffrey Farber will be presenting on the best practices for monitoring *Listeria* in RTE food processing plants. This discussion will highlight the advice presented in the proposed *Listeria monocytogenes* control policy for industry and regulators (it includes a combination of environmental and food sampling for *Listeria*, as well as other inspection and control practices). He will review the issues at Maple Leaf, what was learned and share the positive lessons being applied.

¹ Wikipedia. 2008 Canadian listeriosis outbreak. Accessed May 4, 2010 from http://en.wikipedia.org/wiki/2008_Canadian_listeriosis_outbreak

A Heads Up for this Fall

Coming this fall at a Speakers Evening: Allergens. The evening is hosted by the Neogen Corporation and will include local wines and cheese during the networking

sessions. There you will see a demo on allergen test kits; a talk on the regulatory perspectives as well as sources of information on allergens; plus a talk on the new

labelling requirements for allergens in foods. Mark your calendars for: **October 7, 2010 at the River Rock in Richmond.**



BC Food Protection Association

"To provide a forum to exchange information on protecting the food supply"

Proudly presents

Listeria survival, interventions & monitoring. Are you in control? **Tuesday June 15, 2010**

Featuring:

Dr. Jeffrey Farber, Director of the Bureau of Microbial Hazards, Health Products and Food Branch, Health Canada. Best practices for monitoring *Listeria* in RTE food processing plants: A review of the issues at Maple Leaf and positive lessons learned.

Dr. Kevin J. Allen, Assistant Professor of Food Microbiology, University of British Columbia. *Listeria's* ability to survive in foods and food production environments and how to tailor effective interventions to reduce its impact.

Ms. Jovana Kovacevic, Food Safety Specialist, BC Centre for Disease Control. Results of *Listeria* survey in provincially licensed meat, fish and dairy RTE food processing plants in BC conducted in 2009.

Where: Delta Vancouver Airport, 3500 Cessna Drive, Richmond, BC Sea Island Ballroom

When: Tuesday June 15, 2010. Registration begins 5:30pm ♦ First Speaker 6:15pm ♦
Networking Break & Refreshments 7:00pm ♦ Evening Wrap up by 9pm

Please pre-register by completing the registration form below

June 15th, 2010—Speaker's Evening Registration Form

Name: _____ Job Title: _____

Company Name: _____

Address & City: _____ Postal Code: _____

Tel: _____ Fax: _____ E-mail: _____

Speaker's Evening Registration Fees*

Date of registration: _____

BCFPA Members \$25 _____

Non-members \$35 _____

Students/Retired \$10 _____

**Price includes beverages, sandwiches and snacks*

Become a member today! Membership Fees:

Individual Membership: \$30 Student/Retired: \$15

Sustaining Members: Bronze Level: \$100 Silver Level: \$250 Gold level: \$500

Speaker's Evening Registration Enclosed Membership (Optional) Enclosed

By Credit: Visa Mastercard AMEX By Cheque: Make payable to BC Food Protection Association

Card Number: _____ Card Holder's Name: _____

Exp. Date: ____/____/____ Amount: _____ Signature: _____

Register by June 11th, 2010 Return by fax to: c/o Lorraine McIntyre, Fax: 604.707.2441, E-mail: treasurer@bcfpa.net

By mail to: c/o Elsie Friesen, BC MAL, Abbotsford Agriculture Centre, 1767 Angus Campbell Road, Abbotsford, BC V3G 2M3

Presidents Corner



**Elsie Friesen,
President**

Contact Info:

c/o
BC MAL, Abbotsford
Agriculture Centre
1767 Angus Campbell
Rd., V3G 2M3
Ph: 604.556.3122
E: president@bcfpa.net



**Terry Peters,
Past President**

**A Word from the Past
President**

If you haven't already noticed, this newsletter has BCFPA with a new president. I extend a welcome to incoming President, Elsie Friesen and other new members of the Board and thank them all for volunteering for this role

I would like to express my thanks to our membership for all the support that I and BCFPA received during my tenure as president. It is the executive board and membership at large that gives this association its strength. Your dedication to a safe and nutritious food supply for all British Columbians is well recognized at IAFP headquarters and by their Executive Board. Having now surpassed 10 very successful years, BCFPA has become recognized as a valuable source for information on protecting the food supply, not only in BC but around the world.

We do not expect any major changes with our new president. I expect that she will bring new life and ideas to our organization but the basics by which we have succeeded will remain

strong. Although I have stepped down from the presidency, I will continue to be on the Board for at least one more year in the role of "past president" and provide mentorship to the team where needed.

Thank you BCFPA, I enjoyed the opportunity to represent you.
.....Terry

**A Word from our New
President**

Spring is a time of renewal, and looking forward to new growth. With this in mind I express thanks to Terry for the dedicated leadership over the past seven years, and appreciate the benefits of his knowledge and expertise.

Looking forward, I hope to meet you at our Spring Speaker's Evening on Tuesday, June 15th at the Delta Vancouver Airport Hotel, Richmond. I encourage you to join us for a very practical and up-to-date presentations on **Listeria survival, interventions & monitoring. Are you in control?**

The IAFP Conference

follows on Aug 1 - 4, in Anaheim, CA.

Mark your calendars for Thursday, Oct 7 for our Fall Speaker's Evening at the River Rock in Richmond. Stay tuned.

Recently I reviewed past copies of the Grape Vine and thank ALL of our members for making this an award winning organization. Awards are based on merit and the dedicated passion of people who know that volunteering attitudes with hard work bring about positive results. Your participation and encouragement help bring new ideas and topics of interest to address present and future challenges to ensure our BCFPA Mission and Vision are upheld "to provide a forum to exchange information to protect and provide a safe and nutritious food supply". As your new BCFPA President, along with the new board members we dedicate ourselves to the service and education of you our members and the food industry.

Elsie Friesen

BCFPA Executive and Committee Members—Share Your Ideas!

- Elsie Friesen, President, Tel: (604) 556-3122
- Terry Peters, Past President and affiliate council delegate, Tel: (604) 274-7658
- Alex Montgomery, Vice President, Tel: (604) 666-6675
- Lorraine McIntyre, Treasurer, Tel: (604) 707-2458
- Dewi Winoto, Assistant Treasurer, Tel: (604) 639-8421
- Michael Mensah-Wilson, Secretary, Tel: (604) 855-3734

- Shendra Brisdon, Special Events Coordinator, Tel: (604) 505-7630
- Stephanie Chiu, SPDG Coordinator, Email: studentgroup@bcfpa.net
- Lance Hill, Membership Coordinator, Tel: (604) 666-7534
- Annette Moore, Newsletter Editor, Tel: (604) 859-5962

Upcoming Events



Knowledge and continual updating is key to any food protection program

Next BCFPA Event....

June 15, 2010

Delta Vancouver
Airport Hotel

Listeria Survival,
interventions &
monitoring. Are You
in Control?

EVENTS

- May 14. **Food Safety Planning Workshops.** Small Scale Food Processors Association. Naniamo (Community Futures office). www.ssfpa.net/foodsafety
- May 18. **Public Hearing-Changes to the Zoning and Development Bylaw 7:30 p.m.,** Council Chamber, Third Floor, City Hall, 453 West 12th Ave. (*Guidelines for the Keeping of Backyard Hens* <http://vancouver.ca/ctyclerk/cclerk/20100408/documents/penv3.pdf> or more info - <http://vancouver.ca/chickens>)
- May 31-June 1, 2010, **2010 CIFST / AAFC Conference, Safe and Healthy Food: Harvesting the Science,** Winnipeg, <http://www.cifst.ca>
- June 4. **Food Pro West 2010.** BC Food Processors Conference. Grand Villa Casino, Burnaby. www.bcfpa.ca/event/387
- June 10. **Food Safety Planning Workshops.** Small Scale Food Processors Association. Surrey (Compass Point Inn). www.ssfpa.net/foodsafety
- June 15. **Listeria Survival, Interventions & Monitoring. Are You in Control? BC Food Protection Association.** Delta Vancouver Airport, 3500 Cessna Dr., Richmond, BC. www.bcfpa.net
- June 20-24, 2010 **Canadian Society of Soil Science and Canadian Society of Agronomy joint meetings,** Saskatoon. <http://www.usask.ca/saskatoon2010/Saskatoon2010/Welcome.html>
- July 11-15, 2010. **Canadian Society of Animal Science annual meeting,** Denver.
- July 25-27, 2010. **Canadian Agricultural Economics Society / Agricultural and Applied Economics Association / Western Agricultural Economics Association joint conference,** Denver, Colorado. <http://caes.usask.ca/>
- July 25-28, 2010, **6th Canadian Barley Symposium,** Saskatoon www.canbar6.usask.ca
- Sept. 5-10, 2010. **11th World Congress on Environmental Health.** Vancouver, BC. <http://www.ifeh2010.org/>
- Sept. 12-15, 2010, **ABIC 2010: Bridging Biology and Business,** Saskatoon, <http://www.abic.ca/abic2010/>
- Oct 7. **BCFPA Speakers Evening. All About Allergens. River Rock Casino, Richmond.** www.bcfpa.net
- October 3-8, 2010. **4th International Conference on Greenhouse Gas and Animal Agriculture,** Banff Park Lodge, Banff, Alberta. <http://www.ggaa2010.org/>

OTHER ON-LINE EVENTS and WEBINAR PAGES

- Mar. and April 2010, **Prairie Innovation Forum,** Brandon and Dauphin, Manitoba, <http://public.assiniboine.net/Default.aspx?tabid=143&k=applied&i=165>
- **Listing of national and international conferences** fsrio.nal.usda.gov/conferences.php?year=2008
- **Food Newz,** <http://www.thefoodnewz.com> An around the world event calendar.

Want to Advertise in the Newsletter?

Space is on a first come first serve basis. Sustaining members are given preference. Space is limited to a maximum of 10% of content and will be interspersed throughout the newsletter. Rates: \$50 for 1/8 page; \$100 for 1/4 page; \$200 for 1/2 page and \$400 full page (all are per issue). Contact Annette Moore Ph: 604-859-5962 Email: newsletter@bcfpa.net for more information.

Salmonella - Nothing to Yolk About

Does the general public take all the required safety measures necessary for minimizing their risk of getting sick from consuming eggs? During the summer of 2008 and 2009, the BC Centre for Disease Control experienced an unusually high number of Salmonella Enteritidis. Investigations identified eggs as the most likely source of the outbreak, although no common egg brand/type or supplier could be determined.

Currently, the number of Salmonella Enteritidis cases reported in BC continues to be higher than expected.

Many people consume eggs with runny yolks and/or runny whites, unaware of their potential to harbour organisms such as Salmonella. In order to eliminate pathogens, it is recommended that consumers cook their eggs at 63°C (145°F) for 15 seconds or until both the white and the yolk are firm. *Salmonella* can be found inside an egg as well as on the shell. Although graded eggs from approved sources are washed and sanitized, there have

been instances of malfunctioning machines at washing stations which have resulted in Salmonella outbreaks. Furthermore, recontamination can occur even after the eggs have been washed and sanitized. Therefore consumers should wash their hands after handling eggs, whether broken or whole.

As part of our degree requirements, the [Environmental Health students at BCIT](#) are required to complete an independent research project during our final year. I chose to do mine on Salmonella and eggs. The objective of my study was to assess the general public's consumption and hand washing habits for eggs as compared to meat/meat products. Using Google Docs, I created an online survey consisting of 21 questions asking about food preference and food handling practices and distributed it via Facebook and email. The email was

forwarded to Lance Hill who forwarded the survey to the BC Food Protection Association members and in a matter of 6 short weeks, I had over 300 responses. I would like to thank all those who took the time and filled out my survey; I greatly appreciate your participation!

RESULTS: What was found -

While most people are aware of the risks associated with consuming rare burgers and pink chicken as well as the importance of proper hand washing after handling raw meat/raw meat products, there seems to be a knowledge gap when it comes to the consumption of inadequately cooked eggs and proper hand washing practices after handling uncooked eggs. Figure 1 shows that a lot more people consume inadequately cooked eggs (77%) than inadequately cooked beef burger patties



Fig. 1. Percentage of People Eating...		
Runny Eggs	Rare Beef Patties	Pink Chicken
77%	23%	13%

Figure 1. Comparison of Consumption Percentages

Salmonella - Nothing to Yolk About (cont'd)

(23%) or inadequately cooked chicken (13%). Figure 2 shows that more people wash their hands after handling raw meat/raw meat products (89%) than after breaking cracking eggs (39%); very few people wash their hands after handling whole eggs (9%).

The study also found that a statistically significant association existed when eating preferences for eggs, burgers and poultry were compared [consumption of runny yolks and/or runny whites compared to the consumption of pink chicken $p= 0.005$ and the consumption of rare ground beef burger patties $p=0.033$]. Hence, people who avoid eating rare burgers or undercooked chicken do not avoid eating inadequately cooked eggs. Alternatively, there was no association when people of the high risk group were compared to the general public/low risk group in terms of their egg consumption habits [consumption of eggs containing runny yolks and/or runny whites for the high risk group compared to that of the low risk group $p=0.265$]. Therefore, people who are more susceptible for contracting a foodborne illness (the elderly, very

y o u n g , immunocompromised and pregnant women) are not any more cautious about consuming inadequately cooked eggs as those who are not at an increased risk. It was also determined that a statistically significant association existed when hand washing habits for eggs (both broken and whole) and raw meat were compared [hand washing after breaking/cracking an egg compared to after handling raw meat/raw meat products $p=0.000$ and hand washing after breaking/cracking an egg compared to after handling an egg with its shell in tact $p=0.000$]. These results show that people tend to wash their hands more frequently after handling raw meat/raw meat products than

after breaking/cracking an egg. Similarly, people wash their hands more frequently after breaking/cracking an egg than after handling a whole egg (with its shell in tact).

In my research paper I concluded that lack of awareness was the main reason for the improper handling and consumption of eggs. I also concluded that efforts need to be made to inform and educate the public on the risks associated with eggs. Some of my suggestions include providing labels on egg cartons as well as warning labels on menus at restaurants.

*Prepared by:
Anna Bazarjani - BCIT
Environmental Health
Student*

Fig. 2. Percentage of People Hand Washing After...		
Handling Raw Meat / Raw Meat Products	Breaking / Cracking Eggs	Handling Whole Eggs (Shell In Tact)
89%	38%	9%

Figure 2. Comparison of Hand Washing Percentages

From our last event...AGM March 2009



Dr. Gary Sandberg, BCIT

At our last event, Dr. Brent Skura, Faculty of Land and Food Systems, UBC, and Dr. Gary Sandberg, Food Technology, BCIT spoke on: **“A Four Decade Perspective On Food Safety: What Have I Learned?”** a big thank you goes to Kourosh Pirayesh who kindly contributed to this piece.



Dr. Brent Skura, UBC

Soft preservation technologies, how we handle food and the risks facing us are some of the many challenges facing us. The examples of this are many:

- Modified atmosphere packaging,
- Emergence of previously unrecognized pathogens,
- Increasing food security concerns, and,
- Increased globalization and world access for our food.

Forty three years ago, salmonella could not survive in acidic products, moulds were considered to be innocuous and the concept of microbial injury was unknown;

moreover, meat product safety had more priority than vegetables and fruits and canned food products were proved to be superior in the market. Often the main topics were limited to *C. botulinum*, *Salmonella* and *Staphylococcus aureus*. The main food safety concerns then were:

- Temperature control in food chain,
- Cross contamination,
- Employee hygiene, and,
- Automation was going to decrease incidence of food borne illnesses.

Today, so much more is achieved:

- Contamination source I.D. is achieved by RNA & DNA base technology,
- Microbial modeling is now done,

- Importance of microbial injury phenomena is realized, and,
- Biofilms help us understand food pathogens behavior.

Despite all this though human resources for inspection and diminished training efforts regrettably keep us back. Internet technology has introduced rapid communication and information exchange, but does not elevate safe food handling education. So far hand washing remains difficult to educate and enforce.

Both speakers agreed that the continued challenge is to keep pace with the continued emergence of new and changing pathogens and that we must remain vigilant to the ever shifting landscape of technology and human resource management.



Sustaining Member: Maxxam Profile



Laboratory Profile

Maxxam Analytics is Canada's largest independent analytical laboratory services company, with expertise in food safety and sciences, environmental laboratory services, petroleum services, pharmaceutical, forensic and DNA services.

Maxxam employs over 1800 people at over 30 laboratory and service centre locations across Canada.

Scope

Maxxam is accredited by the Standards Council of Canada and is an ISO 17025 accredited laboratory. Our wide scope of expertise helps you manage the quality and safety of your products and mitigate risks. Maxxam guards your brand reputation at every stage of the process from the analysis of raw materials to process quality assurance, quality control checks and final product analysis. We also assist with

consumer complaint investigations.

Our food quality and testing services include:

- Rapid and Conventional Microbiology Analysis
- Food Chemistry
- Nutritional Labelling
- Residue Analysis
- Allergen Testing
- Vitamin and Supplemental Mineral Analysis
- Toxic and Heavy Metals
- Shelf-life Testing

In the summer of 2010, Maxxam will commission its fully accredited microbiology laboratory in Burnaby, BC. This laboratory builds on our network of microbiology laboratories and will allow us to better service food companies, as well as their suppliers and customers.

Service

Maxxam has become Canada's largest food testing laboratory by differentiating ourselves based on service. From reliable turnaround times, to client-

dedicated customer service representatives, to access to industry experts, Maxxam works with our clients to meet their business needs.

Science

By using the right methods, performed to the most exacting standards and backed by experts, Maxxam delivers the results that our customers need to make sound, timely decisions. The depth of our experience in microbiology, chemistry and residue analysis are unmatched in the industry.

In every aspect of our relationship with our client, Maxxam is the ideal partner for your food quality testing and safety programs.

Contact Information

For further information on our services, please contact us at 604-734-7276 or visit our website at www.maxxam.ca.

Maxxam Analytics

4606 Canada Way

Burnaby, BC V5G 1K5

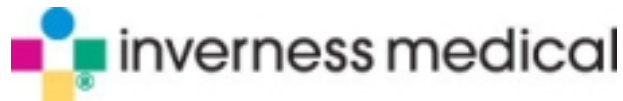
Tel: 604-734-7276

Fax: 604-731-2386

Sustaining Members

Is your company or organization missing?
Contact Lance Hill, BCFPA Membership Coordinator at
members@bcfpa.net to inquire about the benefits of being a
Sustaining Member today!

Gold



Silver

3M Microbiology



I.G. MicroMed
Environmental Inc.



Bronze

- BC Chef's Association
- BC Food Processors Association
- Fraser Health Authority
- GCP Consulting
- GJG & Associates
- Maxxam Analytics International Corporation.
- Neogen Corporation
- Ronco Protective Products
- Small Scale Food Processor Association
- SGS Canada Ltd.
- Sugarplum Desserts Ltd.
- TrainCan Inc.