

## FOOD SAFETY INITIATIVES IN THE RED MEAT INDUSTRY

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The Canadian Meat Council is Canada's national trade association of federally-inspected red meat packers and processors (beef, pork, veal and lamb). Figures for 1997 show the red meat industry as the largest sector, \$10.9 billion, of Canada's food processing industry and the fifth largest of all manufacturing industries in the country. It employed directly about 37,000 Canadians and was the second largest agri-food exporting commodity, about 3 billion in 1997, following grains and oilseeds. The Council membership is composed of 45 regular member companies and 60 associate member companies (associate members provide goods and services to the industry, i.e. packaging, ingredients, equipment). Council accounts for: 91.5% of federally-inspected red meat, 89% of federally-inspected beef slaughter, 94% of federally-inspected hog slaughter, 87% of federally-inspected red meat processing, and 85% of all Canadian red meat production. Note that of all the red meat produced in Canada, federally inspected meat represents 95% of the total volume. The rest is provincially, municipally and non-inspected meat.

### Food Safety Enhancement Program

As far back as 1991, the Canadian Meat Council, along with other industry associations was involved in the early stages of the Food Safety Enhancement Program (FSEP) with Agriculture Canada that eventually led to the formation of the program which included HACCP as the best tool available to ensure food safety. This was before the "Jack in the Box" incident in the U.S. and even before the publication of the U.S. Mega-Reg. It was apparent to everyone that FSEP was a collaborative approach between industry and government for the benefit of everyone including consumers. Council members then started to use the various tools that were available: generic models, FSEP Volumes I to IV,

the HACCP Introduction Video, the Hazard Identification Database, and various HACCP Workshops throughout Canada.

In the mid-1990's, Council members worked on developing pre-requisite programs (which cover premises, transportation, storage, equipment, personnel- including training, sanitation and pest control, and recalls) and HACCP plans. Everyone was aware that this was the next logical step for the industry to take as HACCP is an internationally recognized food safety system and more and more plants were adopting it. Most companies were already doing some of the things required by FSEP, so it involved upgrading and re-organizing the records they were collecting related to the pre-requisite programs and their HACCP plan and completing the written documentation required.

Generic HACCP models were being developed at that time for several product categories to assist industry. For example, beef slaughter was the first model developed and Caravelle Foods, one of our member companies, had input into that model and the beef boning model. Caravelle Foods also participated in the pilot project to test the implementation process. As a matter of fact, in 1996, Caravelle Foods was the very first federally registered food company in Canada to receive HACCP recognition from CFIA.

Since then, all CMC plants have been working continuously on their pre-requisite programs and HACCP plans. At this time, in the mid-1990s, another major initiative and success story was the development of a hot water carcass pasteurizer for beef and hog carcasses by Colin Gill at the Lacombe Research Centre. It is one of the first commercial applications to emerge from the Council's research arm - the Canadian Meat Research Institute. It is a microbiological intervention technique of practical value to the industry. It was developed to provide a means for carcass decontamination by increasing the temperature of the carcass surface. Objective methods of validation were developed to assist industry with

the development of HACCP plans and to demonstrate the effectiveness of such intervention techniques. Now the carcass pasteurizers have been in use commercially for more than 3 years. In 1999, the Canadian Meat Council recognized the work of Dr. Gill awarding him the Science and Technology Award at the CMC 79<sup>th</sup> Annual Conference. A wide variety of other antimicrobial intervention techniques are being used by the red meat industry, and some of them include: chlorinated water, organic acids, steam pasteurization and steam vacuuming. Efforts continue on the part of Council members to develop prerequisite and HACCP programs and ensure that procedures are being followed as outlined in the FSEP operational manual Volume IV.

The Canadian Meat Council had been involved with the HACCP Adaptation Contribution Program from the very beginning of its development. Along with other industry members, we appreciated the opportunity to comment on the Draft Application Form for the Program back in December 1996. Since then, Council has been extremely supportive of the initiative and encouraged Council members on several occasions through written correspondence to contact their Regional Coordinator and participate in this very successful Program. In 1997 and 1998, quite a few members of the Council with small and medium sized plants were able to implement prerequisites and HACCP plans with assistance from CFIA's HACCP Adaptation Contribution Program.

The FSEP Industry/Government Steering Committee meetings which involve both government and industry groups provide an excellent opportunity for Council to obtain regular and timely updates on progress and the important developments in this area. Following input from industry, the creation of the CFIA Uniformity Team in 1998 has assisted the industry as a whole in dealing with non-uniformity issues with respect to HACCP implementation in Canada and has helped in obtaining clarification on specific program requirements.

At the CMC, we have been conducting member surveys during the past 2 years to determine the status of HACCP developments within our industry. Our sixth HACCP survey conducted in October 2000 indicates that for a total of 88 member plants: 91% have completed prerequisite review, 86% have completed their HACCP plan review and 85% have obtained official HACCP recognition from CFIA (meaning they received their final certificate of completion from CFIA). These numbers are quite significant. What this really means is that about 3/4 of all federally inspected red meat slaughter and processing in Canada is done by establishments officially recognized by CFIA as operating under a HACCP-based food safety program. That is a huge proportion produced in Canada and it is increasing as time passes. Soon, all Council members will be HACCP-recognized.

A great deal of progress has been made within the past couple of years on the supplier front as well. Our members' suppliers of ingredients, packaging, etc. are developing and implementing HACCP programs certified or recognized by private institutions, like the Guelph Food Technology Centre. For example, all the spice companies have implemented HACCP. They are working hard to ensure that raw materials are safe and can be used in the processing of red meat products produced in a HACCP environment. Cattle and hog producers developed and are implementing their Quality Assurance programs which are based on HACCP. The overall market is driving the issue and soon, it will be impossible to operate without a HACCP plan in the red meat industry, no matter what inputs you are producing. What is the reason for this rapid evolution? A HACCP-based food safety program controls food hazards better and provides a higher level of assurance of food safety.

Now all member plants within Council that are HACCP recognized and even those which are not quite yet recognized by CFIA are exporting product to the U.S. since they have implemented

their Mega-Reg. In order for our members to do so, they must comply with a Basic Compliance Checklist which indicates that the system in the plant meets the requirement for equivalence. Now that the Food Safety Inspection Service in the U. S. has completed its mission over the three year period from 1997 to 2000, to switch over their 6000 federally inspected meat and poultry plants to HACCP, the FSIS is now focusing on fine-tuning the system with something they call HACCP Phase II. That involves improving the quality of the industry's HACCP plans and the government's inspection techniques.

Council has requested on numerous occasions that CFIA mandate HACCP in Canada, as it is done in the U.S., for all federally registered red meat plants. We are pleased that CFIA has announced that it will soon release a consultation package on this matter and we look forward to future discussions on this topic. We appreciate the federal government's firm commitment to food safety and FSEP/HACCP through both the Adaptation Fund and current efforts underway for mandatory HACCP within the red meat sector in Canada.

### **Microbiological Baseline Study**

Council has been considering the development of a national red meat microbiological baseline study for Canada. Other countries such as the United States, Australia and New Zealand have already established baseline data. A baseline survey would provide general information about the prevalence of certain microorganisms in certain areas of red meat production. The information generated from such a study would help to develop performance criteria for pathogens and food safety objectives to objectively assess HACCP programs in meat plants, as well as assess any pathogen intervention technologies being used. That is the objective of a baseline study. Furthermore, the information from a baseline can also help to track the progress made in reducing certain pathogens and measure the effectiveness of HACCP-based food safety programs.

Council members have invested a lot of time in

developing and implementing HACCP in their operations. It is important for them to be able to validate the effectiveness of their procedures. In the United States, by collecting this objective information from various plants, FSIS has been able to demonstrate a 50% reduction in Salmonella over a certain period of time. At the present time, we do not have that kind of information for federally registered meat plants in Canada, so we cannot compare our performance, as a whole, with the performance of other countries in order to demonstrate equivalence. That is important not only from a food safety standpoint, but also from a trade perspective as well, as it may become critical for market access.

Development of a baseline study for red meats would provide the foundation for a continuous on-going database for long-term maintenance and monitoring of any microbiological changes over time.

It would provide information for the implementation of HACCP-based inspection for hogs and cattle. It would ensure the development of a strong, science-based integrated food control system. This is crucial if Canada wants to preserve its international reputation and maintain current and future international markets.

Council is currently working together with representatives of the CFIA to explore the development of this national baseline study for red meats in Canada and the Project Team is preparing a proposal for funding.

### **Regulatory System Audit Approach**

With more and more recognized HACCP systems in place in Canada, a conversion is underway to change the current traditional inspection to acknowledge the greater level of confidence in the safety of products produced under HACCP. Transition to a regulatory system audit approach is currently underway within the red meat industry. Several CMC members are going through these partial audits as well as traditional inspections, for the time being. The traditional inspection will

continue to be delivered through the Multi-Commodity Activity Program (MCAP) because an equivalency agreement has not yet been finalized with the U.S. Currently, discussions are underway between CFIA and USDA regarding transition to audit frequencies. The ultimate goal, of course, is to provide a step-by-step implementation approach and to be able to objectively demonstrate equivalence and the fact that the new audit approach will result in as safe and wholesome a product.

### **Irradiation of Meat Products**

Certainly, there are many tools in the fight for food safety. The initiatives which I have just described, such as those related to HACCP implementation in the food industry, are just one of the tools. The Canadian Meat Council supports the use of irradiation for meat products as one more tool, used together with others, in the arsenal of weapons to destroy pathogens in meat. We have submitted letters to Health Canada requesting that it be approved for use in Canada for ground beef, and all meat products (whether they are fresh or frozen), just as it is has in the U.S. We feel that the consumer should be given the right to choose. Ultimately, consumers' purchase behaviour will drive the availability of irradiated meats. If Canadian consumers want the product, then industry will try to meet that demand.

### **The Canadian Partnership for Consumer Food Safety Education**

Another initiative we have been involved with when it comes to food safety is the Canadian Partnership for Consumer Food Safety Education. This Partnership is a real success story because this is the first time that major players in the Canadian food industry, along with consumers, government, health and environmental organizations have joined in collaboration with the CFIA and Health Canada to launch such a huge food safety consumer education program in Canada. Council is one of the many founding members and we have contributed a total of \$10,000 for the past three years. The major objective of this Canadian Partnership, started in late 1997 and modeled after

the U.S. Partnership, is to increase awareness among consumers about how they can reduce foodborne illness in the home. The messages are clear and simple: Clean, Separate, Cook and Chill. Everyone agrees that the food industry is continually working to improve food production, processing, transportation, and distribution techniques to ensure the best quality and safest products possible. This is, of course, just one more tool in the entire chain for ensuring food safety. The other partners in the food system, from "gate to plate", from suppliers to government to consumers, all must do their part as well.

There are lots of other initiatives undertaken by the Partnership. For example, it developed food safety action kits, pamphlets, a travelling exhibit, a website, and a giant sized bacteria (nick-named BAC) who has made appearances across Canada. The Chill Out Brochure (a Meat and Poultry Handling and Storage Guide) was funded by a number of industry organizations including the Beef Information Centre, the Chicken Farmers of Canada, Canadian Poultry and Egg Processors Council, Canadian Turkey Marketing Agency and the Canadian Meat Council. The brochure contains detailed information on the FightBAC messages in relation to meat and poultry. To date, approximately 250,000 of these popular brochures have been distributed to Canadian consumers. In 1999-2000, the Partnership increased its membership to 64 organizations and launched a food safety learning kit targeted at Kindergarten to Grade 3 students. The Partnership is currently planning a wide variety of activities for the next fiscal year (2000-2001), such as developing new communication tools for school-aged children and delivering even more food safety messages to Canadian consumers. In order to reach these goals (which are really part of the "gate to plate" strategy), the Partnership requires funds, both financial and in-kind contributions from various organizations. It may be of interest to know that the 1999-2000 member in-kind contributions totaled almost \$1.6 million! For more information, visit the Partnership website at [www.cmpsa.ca](http://www.cmpsa.ca) or call 613-798-3042.

### Summary

As you can see, excellent progress has been made in the food safety arena in all areas, and it appears that many different sectors are doing their part to ensure the links of the food safety chain are taken care of. This is extremely important to note, because HACCP and food safety can only work effectively if all groups, from gate to plate, are doing their part. There is of course, more work ahead, but the developments have been remarkable so far. There are a lot of good news stories to be told about HACCP in every sector. Unfortunately, many of the stories that get into the media these days seem to focus on problems and attack the food industry and Canada's inspection system as it relates to pathogens in the food supply, indicating that we are not doing enough to combat these pathogens. These stories do not paint a very good accurate picture of industry and government to the public, despite the money and effort invested and significant advances to ensure a safe food supply. It may seem that the media believes that good news about the safety of our food supply just isn't newsworthy enough. That needs to change. It is important to tell the public about HACCP and food safety initiatives and all the good work that is being done in the various industry sectors. The Canadian Partnership for Consumer Food Safety Education is a wonderful example of a very successful national consumer education program. There is a lot more work that should be done to communicate "Food Safety in the Canadian Food Supply" from an industry perspective to consumers. According to CFIA's Safe Food Handling Study conducted in 1998, 33% of Canadians believe that food safety problems are most likely to occur at food processors/manufacturing plants. That is a relatively high percentage. We would like to see more initiatives to communicate to the public the good reputation maintained by Canada's industry sectors when it comes to HACCP, food safety standards and risk management. As well, considerable efforts have been undertaken by both government and industry in partnership and that must be shared with the public as well. We envision that to be a government/ industry role, with government taking the lead role to ensure a credible process.

### SYMPOSIUM NEWS / CALL FOR POSTERS

*Gabriel Piette, AAFC, St-Hyacinthe*

Preparations for the 2001 Technical Symposium are well underway and the program will be finalized in the next few days. We promise you an exciting "menu", with excellent speakers and hot topics.

However, the Symposium will not be a complete success without your participation. Come in droves and bring some friends. If you are involved in meat research, we want to hear about your projects and findings. Poster sessions are getting more popular every year and I am sure that we can beat the record number of posters of last year (18).

Remember that you must submit your abstract electronically by January 15, to the following address: [pietteg@em.agr.ca](mailto:pietteg@em.agr.ca)

in Corel WordPerfect 8, Microsoft Word 97, or earlier versions of the same. The format remains unchanged, i.e.:

- a) Your abstract must fit within a frame delimited by the following margins: top 1.3 in, bottom 1.6 in, left and right 1.8 in.
- b) Please use the following format and fonts: Single space all over, Times Roman 18 po for the title, followed by 4 returns; Times Roman 14 po for the authors' names, followed by 3 returns; Times Roman 8 po for the complete postal and E-mail addresses, followed by 3 returns; Arial 10 po for the body of abstract, with double spacing between paragraphs. The title and only it must be in bold characters.

Make sure you adhere strictly to these rules or we may have to refuse your work.