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Chapter 4 - Farm Livestock Production

4.1 Overview of Meat Safety Issues on Farms

The farm to fork continuum begins at the farm. Animals processed in provincially licensed abattoirs and meat processing plants in Ontario are primarily raised on Ontario livestock farms. Livestock produced in Ontario includes beef, dairy, sheep, hogs, poultry and goats, as well as domestic bison, deer, elk and other specialty animals. Foodborne contaminants cannot be inspected out at slaughter or at any other single point in food production or processing, and for that reason quality and safety must be built into the process from the beginning. It is easier to keep safe an already safe product.

For the most part, farmers' production methods are designed to raise and sell healthy animals, but there are a number of food hazards that can arise at farms. The main hazards on-farm are animal diseases or pathogens that may be transmitted to humans through the meat produced from an infected animal. Other risks relate to production practices that may leave residues of drugs, hormones or other chemicals, or physical elements, such as broken needles or splinters, in animals that could cause harm to the consumer. Also, direct sales of farm products from farmers to consumers give rise to the same risks that exist in any other food premises.

At present, there is very little in the way of legislation or regulation directed to the protection of food safety at the farm stage of the continuum. Farms are not generally licensed, nor is there a mandatory broad-based inspection program concerning on-farm food safety. Although there are reporting requirements for certain diseases, regulations governing animal transport, and restrictions on feeding certain products or using certain medications, the system is not well-designed to enforce these requirements and primarily relies on voluntary compliance.

Nevertheless, Ontario does have a high standard of food safety from food animals, largely because of the proactive work undertaken by Ontario farmers, their commodity groups, veterinarians, the Ministry of Agriculture and Food (OMAF), the Canadian Food Inspection Agency (CFIA) and the University of Guelph. On-farm food safety programs, environmental farm

plans and livestock medicines education programs have all contributed to a safer meat supply in Ontario, but I believe the system can be strengthened further.

In making recommendations concerning meat safety at the farm level of the food continuum, I am seeking a balance between a number of desires emphasized by stakeholders. The first is a desire that programs be voluntary and industry driven. The second is a desire for a consistent, level playing field with minimum food safety requirements based on harmonized inspection and production standards across jurisdictions. This is of particular interest to larger Ontario livestock farmers who seek enhanced access to markets. The third is a desire of smaller farmers who express concern about a regulatory system that may require an expensive or prohibitive amount of paperwork and may infringe on their ability to meet local market or niche demands. The fourth is a desire to ensure that Ontario farmers are able to fulfill their role in a growing national and international framework of disease surveillance to deal with emerging diseases and more virulent pathogens. The last is a desire to balance the historic practice of farm families slaughtering and eating their own animals with a growing public health and animal welfare concern about illegal slaughter and the sale of uninspected meat.

While I am encouraged by the direction of many recent initiatives and future plans, there are compelling reasons for meat safety, to require that all farms adhere to certain standards and not rely on a voluntary approach. Those who choose not to participate are likely those who represent the greater risk. For the food safety system to provide the best protection, there must be full participation. The industry itself has recognized this with recent initiatives, such as the mandatory tagging of cattle and sheep. The provincial government is also now requiring that all farms in Ontario develop nutrient management plans. The development of mandatory approaches will require meaningful participation and leadership by stakeholders and a supportive regulatory framework to provide adequate training and enforcement. I believe it will be possible to address many of the on-farm food safety issues discussed in this chapter through a comprehensive on-farm food safety framework administered by OMAF. Earlier in this report, I recommended

that mandatory HACCP-based food safety programs be required across all sectors of the food continuum. The framework I am proposing will carry out this recommendation at the farm level.

I recommend that the Ministry of Agriculture and Food support the development of an on-farm food safety framework, as well as training and support measures to ensure that all livestock farms have the capacity to develop and implement an on-farm food safety plan.

4.2 Farming in Ontario

4.2.1 Economic Significance

Rural-based agricultural businesses are a major contributor to the provincial annual gross domestic output. In 2001-2002, Ontario's food industry produced over \$8.5 billion worth of agricultural production. Exported agricultural products totaled \$7.83 billion. Agri-food is Ontario's second largest manufacturing sector, generating more than \$31 billion in economic activity in 2001 and employing more than 650,000 people.¹

The vast majority (over 98%) of Canadian farms are family owned and operated. In Ontario, farms are becoming fewer, but larger. About 30,000 of Ontario's 60,000 farms are livestock producers.² On average, each Canadian spends \$1,650 a year on food. Of that, \$110 goes to the farmer.³ For every dollar in revenue, it costs beef producers 94 cents in expenses and dairy farms 75 cents in expenses.⁴

¹ OMAF, *Business Plan 2002-2003*, available from <http://www.gov.on.ca/OMAFRA/english/about/BusPlan2003/message.html> [accessed 27 February 2004].

² In 2001, Ontario had 59,728 farms, down 11% from 67,520 in 1996. Statistics Canada, *2001 Census of Agriculture, Total area of farms, land tenure and land in crops, provinces*, available from <http://www.statcan.ca/english/Pgdb/econ124g.htm> [accessed 2 June 2004].

³ Ontario Farm Animal Council, <http://www.ofac.org/who.html> [accessed 26 April 2004].

⁴ Statistics Canada, *2001 Census of Agriculture. The Daily – May 15, 2002*, available from <http://www.statcan.ca/Daily/English/020515/d020515a.htm> [accessed 2 June 2004].

4.2.2 Legislative Scheme

4.2.2.1 Defining a Farm

Farm businesses that declare gross farm income of \$7,000 or more⁵ are required to register annually under the *Farm Registration and Farm Organizations Funding Act, 1993*.⁶ Agricorp⁷ reported that 48,000 farms in Ontario registered under this requirement by June 4, 2002. The number of Ontario farms in the 2001 Census of Agriculture with less than \$7,000 in gross farm receipts was 10,383.⁸

4.2.2.2 Production and Marketing of Animals

Both provincial and federal legislation applies to the production and marketing of livestock. Some legislation is discussed elsewhere in the Report, notably, the *Meat Inspection Act (Ontario)*, *Livestock Community Sales Act*, *Dead Animal Disposal Act*, *Livestock and Livestock Products Act* and the as yet unproclaimed *Food Safety and Quality Act, 2001 (FSQA)*.

A number of aspects of sales and marketing within Ontario are regulated by provincial legislation. The *Farm Products Grades and Sales Act* provides for standard grade names for carcasses and labelling requirements.⁹ Grades relate to quality, not safety. The *Farm Products Marketing Act* establishes the Ontario Farm Products Marketing Commission, which may establish local boards and appoint inspectors.¹⁰ Some local marketing boards have the

⁵ "Farming" is defined in s.248 (1) of the *Income Tax Act* (Canada) to include: tillage of the soil, livestock raising or exhibiting, raising of poultry, dairy farming, ... but does not include employment under a person engaged in the business of farming." *Farm Registration and Farm Organizations Funding Act 1993*, S.O. 1993, c.21, O. Reg. 723/93, s.1 sets the amount of \$7,000. See G.H. Munro and K. Oelschlagel, *Taxation of Farmers and Fishermen*, (Carswell, March 2000) for taxation of farming and other activities deemed not to be farming, even though they may take place on a farm.

⁶ The registration fee of \$150 (plus GST) is forwarded to a General Farm Organization accredited under the Act: Christian Farmers Federation of Ontario, Ontario Federation of Agriculture and the National Farmers Union – Ontario.

⁷ Agricorp is the provincial crown corporation responsible for administering the Farm Business Registration Program. www.agricorp.com [accessed 26 April 2004].

⁸ Information provided to the Review by OMAF, May 6, 2004.

⁹ Specific regulations exist for beef, hogs, lamb and mutton, veal and poultry carcasses. See *Farm Products Grades and Sales Act* R.S.O. 1990, c.F.8; O. Reg. 685/94, R.R.O 1990, Reg. 379, R.R.O. 1990, Reg. 380, R.R.O. 1990, Reg. 382, R.R.O. 1990, Reg. 381.

¹⁰ E.g. Ontario Broiler Hatching Egg and Chick Commission, Chicken Farmers of Ontario, Ontario Egg Producers, Ontario Pork Producers' Marketing Board, Ontario Sheep Marketing Agency, and Ontario Turkey Producers' Marketing Board. *Farm Products Marketing Act*, R.S.O. 1990, c.F.9; R.R.O. 1990, Reg. 396; R.R.O. 1990, Reg. 402; R.R.O. 1990, Reg. 407; R.R.O. 1990, Reg. 419; R.R.O. 1990, Reg. 429; R.R.O. 1990, Reg. 437.

power to license persons engaged in producing their commodity and the authority to establish quota systems (eg. poultry). Somewhat similar marketing legislation is in place for beef and dairy cattle.¹¹

Environmental issues related to farming are dealt with under the *Nutrient Management Act, 2002*, which provides for a framework for proper storage and application of manure on farmland, as well as disposal of farm waste, including deadstock.¹² The *Pesticides Act* deals with the sale and use of pesticides, as well as situations where animals may come in contact with pesticides.¹³ The *Livestock Medicines Act*¹⁴ and the *Veterinarians Act*¹⁵ address the sale and use of livestock medicines. The *Health Protection and Promotion Act* can be used to quarantine a farm when a potential health hazard is identified.¹⁶

Animal welfare and the prevention of cruelty to animals, including farm animals, is regulated by certain provincial legislation referred to above, the *Ontario Society for the Prevention of Cruelty to Animals Act*¹⁷ and by federal legislation.¹⁸

4.2.3 Farm Organizations and Livestock Commodity Groups

Livestock farmers are members of a wide range of general farm organizations and specific commodity groups¹⁹ that represent their interests to government and the public and also provide education, training and other services to their membership. In most cases, membership is voluntary, but where marketing boards have been established by statute, they may license their members, charge check-off fees on animals produced, or establish other mechanisms for mandatory adherence to specified requirements.

¹¹ *Beef Cattle Marketing Act*, R.S.O. 1990, c.B.5; *Milk Act*, R.S.O. 1990, c.M.12.

¹² *Nutrient Management Act, 2002*, S.O. 2002, c.4.

¹³ *Pesticides Act*, R.S.O. 1990, c.P.11.

¹⁴ *Livestock Medicines Act*, R.S.O. 1990, c.L.23.

¹⁵ *Veterinarians Act*, R.S.O. 1990, c.V.3.

¹⁶ *Health Protection and Promotion Act*, R.S.O. 1990, c.H.7, s.13 (1).

¹⁷ *Ontario Society for the Prevention of Cruelty to Animals Act*, R.S.O. 1990, c.O.36.

¹⁸ *Health of Animals Act*, S.C. 1990, c.21, with its regulations on animal transport and the *Criminal Code of Canada*, R.S.C. 1985, c.46, s.446.

¹⁹ Commodity organizations are livestock producer organizations for particular animals, such as beef or chickens or specific breeds.

Two general farm organizations that deal with livestock producers and food safety issues are the Canadian Federation of Agriculture (CFA) and the Ontario Farm Animal Council (OFAC). The CFA provides Canada's farmers with a single national voice. Its members include provincial general farm organizations, such as the Ontario Farmers Association, as well as national and interprovincial commodity organizations from every province. It coordinates the Canadian On-Farm Food Safety (COFFS) program. The OFAC supports and promotes the responsible production and marketing of livestock and poultry by Ontario farmers and informs the public about animal agriculture.²⁰

There are a number of other general farm organizations²¹ as well as numerous commodity groups at the national and provincial level representing every domestic animal, many of whom have initiated their own on-farm food safety programs or quality assurance programs. Other groups concerned with production of livestock include Farmers' Market Ontario, animal welfare groups, academic institutions and agricultural professional organizations.

Many of these groups have been involved in consultations with the provincial government around the development of the *FSQA*²² and some provided submissions to this Review. The commodity groups are an important bridge to producers and the provincial government will need to be vigilant in continuing to update, consult and engage all of these stakeholders groups, as it continues to strengthen the food safety system in Ontario.

4.2.4 Livestock Raised and Slaughtered in Ontario

The *Farmed Animal Statistics* table in Appendix D to the Report provides a listing of the numbers of animals produced in Ontario and the number of animals slaughtered in provincially and federally licensed facilities.

²⁰ OFAC produces on-farm food safety and animal welfare resources for farmers and the public, available from <http://www.ofac.org/who.html>, [accessed 14 April 2004]. Another organization providing public education is Ontario Agri-Food Education Inc. (OAFE); their work is described in the chapter on Consumers.

²¹ See note 6. There are also a number of organizations representing farm women, francophone farmers, youth (eg. 4H), ecological and organic farmers, and others.

²² OMAF, *Ontario Food Safety System and Quality Review: A Report on the Consultation*, (May 2001). OMAF, *Meat and Poultry Regulations Consultation – A Review of the Meat Inspection System and Regulations*, (August 2001).

Animals produced in Ontario may also be exported live for breeding or slaughter elsewhere and some animals slaughtered in provincial abattoirs have been imported as live animals into Ontario.

4.3 HACCP-Based On-Farm Food Safety Programs

4.3.1 Introduction

Chapter 3 in this Report, *A Science-Based Approach to Food Safety*, describes the requirements of HACCP programs. At the farm level, these are typically called “on-farm food safety (OFFS) programs.”²³

Throughout this chapter, I will refer to HACCP-based programs to describe programs that follow many, but not all, of the HACCP principles, namely, identification of potential hazards, establishing points of control where good agriculture practices are applied in order to prevent these hazards, documentation, training, and verification. Well-defined prerequisite programs are also included. I recognize that few farms will be able to implement full HACCP plans with baseline studies, microbial and other testing at critical control points, as well as many other components required to meet international HACCP standards. Nevertheless, HACCP-based individual on-farm food safety plans that emphasize implementation of good practices to reduce and prevent food hazards from arising are achievable by all farms.

As noted above, a framework is needed to describe the system for the many components of HACCP programs that clearly outlines the roles and responsibilities of government, industry organizations and producers with respect to OFFS program development, recognition, implementation, training, auditing, inspection, testing, surveillance, prerequisite programs and how adherence to the system is to be enforced.

4.3.2 On-Farm Food Safety Risk Analysis

As noted in Chapter 3, the main meat safety hazards on-farm relate to what, in meat, may cause illness in humans. There are three types of hazards:

²³ Some jurisdictions and groups call them quality assurance programs or pre-harvest food safety programs. See *infra* notes 94 and 97.

biological, chemical and physical. Most reported foodborne illness is caused by biological factors, so these factors are the focus of risk reduction across the whole continuum, including farms. However, because drugs and chemicals enter animals on farms, many current and past risk reduction efforts on-farm have focused on preventing residues. In assessing risk at the farm level, the link between animal health issues and foodborne illness is critical.²⁴ As a general statement, healthy, clean, well-nourished, stress-free animals produce higher quality and safe food products, so a number of interventions promote animal welfare practices to achieve these results. However, the scientific basis linking general animal welfare to food safety is not well established. The table in Appendix F illustrates risk analysis for different interventions across the food continuum, including farms.

4.3.3 The Canadian On-Farm Food Safety Program

Since 1997, the COFFS Program has developed a framework in which commodity groups at the national level can develop HACCP-based plans for farms that are consistent with Codex Alimentarius Commission's HACCP definitions and principles and CFIA's Food Safety Enhancement Program.²⁵ It is important to understand this framework in order to make recommendations for a provincial on-farm food safety program.

Most of the large commodity groups in Canada have been proactive in developing national, commodity-specific, HACCP-based programs, designed for recognition in Canada and acceptance in the international

²⁴ See discussion on risk analysis for *E. coli* and BSE. *Report of the Expert Advisory Panel, The Scientific and Regulatory Basis of Meat Inspection in Ontario* (May 2004), Chapter 8 [hereinafter *Expert Advisory Panel Report*].

²⁵ The program has provided coordination, funding support, technical advice and official recognition. *Canadian On-Farm Food Safety Program* (7 October 2003), available from http://www.agr.gc.ca/policy/adapt/national_initiatives/coffsp.phtml [accessed 26 February 2004]. See also the CFA website for newsletters and other materials, available from http://www.cfa-fca.ca/english/programs_and_projects/coffsnews/spring03.htm [accessed 29 March 2004].

marketplace.²⁶ There are at least 19 commodity specific initiatives at varying stages of development.²⁷

The COFFS Program has four phases for each commodity: development of the national strategy; development of the on-farm food-safety program; implementation of the program; and recognition of the program. In June 2001, CFIA was identified to lead a process, with provincial and territorial participation, to provide government recognition for industry developed on-farm food safety programs.²⁸ The On-Farm Food Safety Recognition Program is a key program in support of the “Food Safety and Food Quality” element of the recent Agricultural Policy Framework (APF), which the CFIA has implemented in pursuit of its mandate.

There are four distinct components proposed for national recognition.²⁹ The commodity group must have a detailed management structure to define the roles and responsibilities of all participants in the program including: national and provincial producer organizations; provincial delivery agents; OFFS auditors (or validators); independent third-party auditors; and producers. The management structure must also include: a plan for producer/participant and employee training; descriptions of commodity-specific training materials; schedules for on-farm audits (or validations), program updates and maintenance.

Although a number of the commodity groups have produced extensive on-farm safety manuals for their members, established websites and hired

²⁶ A. Chambers, *Canadian Approach to On-Farm Food Safety – Taking Control Through Collaborative Action*. A powerpoint presentation to the CFA Conference: New Farm Management Systems: Taking Control, February 10-11, 2004, Ottawa, available from http://www.cfa-fca.ca/english/whats_new/mgtstsysdocs/Albert_Chambers_Eng.pdf [accessed 26 April 2004].

²⁷ Livestock commodities include: broiler chickens, eggs, turkeys, hogs, bison, dairy, beef, veal, sheep, goats, deer and elk. *Supra* note 25.

²⁸ Decision of the annual federal, provincial and territorial agricultural minister's meeting in Whitehorse. See CFIA, *On-Farm Food Safety Recognition Program*, Food Safety Directorate Policy and Strategies, (11 March 2004), available from <http://www.inspection.gc.ca/english/fssa/polstrat/reco/recoe.shtml> [accessed 26 April 2004]

²⁹ The four steps are: Applying for Recognition; Pre-Recognition; Stage One Technical Review; Stage Two Implementation and Third Party Audit; Stage Three Pre-Recognition Assessment; Receiving Recognition; Post-Recognition Ongoing Monitoring and Assessment. See CFIA web page: *On-Farm Food Safety Recognition Program Process*, (18 October 2003), <http://www.inspection.gc.ca/english/fssa/polstrat/reco/processe.shtml> [accessed 26 April 2004].

resource persons,³⁰ and are all in the process of implementing their program with producers, none has completed all four phases and received final recognition by CFIA. A training program has recently been established for auditors for the national programs.³¹

4.3.4 The Need for an Ontario Strategy and Framework for OFFS

It may seem to some, that with the COFFS Program in place, there is no need for a provincial initiative. However, I believe that there are a number of benefits to OMAF developing its own on-farm food safety strategy, as well as a formal framework for provincial recognition of on-farm food safety programs, that is integrated with the national program.³² The COFFS Program is effectively implemented at the provincial level by the provincial associations that represent the members of the particular national commodity group. Since implementation and delivery of the program to local farmers is essentially at the provincial level, I believe a provincial government framework will enhance a coordinated approach to ensure that all Ontario livestock farmers are aware of the OFFS programs. It will also encourage integration of existing provincial programs such as the Livestock Medicines Education Program (LMEP) as prerequisite programs, and help in developing training opportunities in key prerequisite areas that will achieve on-farm safety objectives. A provincial OFFS strategy could also integrate measures, such as traceability, disease surveillance, and

³⁰ See CFIA Food Safety Directorate, available from <http://www.inspection.gc.ca/english/fssa/polstrat/reco/linke.shtml> [accessed 26 April 2004]; Canadian Cattlemen's Association, *Quality Starts Here* <http://www.cattle.ca/QSH/safety.htm>; Canadian Pork Council, *Canadian Quality Assurance (CQA)@Program* <http://www.cpc-cpp.com/QA.htm>; Chicken Farmers of Canada, *Food Safety in the Chicken Barn* http://www.chicken.ca/E_food_safety.htm; Canadian Turkey Marketing Association, *Raising Turkeys, Producing Food* <http://www.canadianturkey.ca/fsafety.htm>; Canadian Sheep Federation, *Canadian Quality Sheep and Lamb Program* http://www.cansheep.ca/english/lamb_e.htm; Dairy Farmers of Canada, *Quality Assurance Program* <http://www.dairyinfo.gc.ca/cdicofqm.htm>; Animal Nutrition Association of Canada, *Feed Safety Program* http://www.anac-anac.ca/anglais/infoanac/1_pageshtml/menus/info_saf.html; Canadian Aquaculture Industry Alliance – Canadian Shellfish Quality Resource.

³¹ Société Générale de Surveillance (SGS), a global independent training, audit and certification body, has been hired by CFA. Training will be to Codex/CFIA Curriculum Guidelines for HACCP training requirements and ISO 19011. See <http://www.sgs.ca/serviceSolutions/haccp/onFarmAuditor-en.html> [accessed 29 April 2004].

³² An overall strategy describes initiatives and directions to carry out the department's vision, mission and goals. The framework describes the system, including roles and responsibilities.

biosecurity, which begin at the farm, but need to be reinforced throughout the food continuum.

Lastly, I am particularly concerned that many small mixed livestock farms will be left out, since they are often not members of national commodity groups and they may not easily fit into the national COFFS framework, which focuses on single species programs. An Ontario framework should include an on-farm food safety program designed for small mixed livestock operations.

4.3.5 The Ontario On-Farm Food Safety Strategy

The process of developing an On-Farm Food Safety Strategy began in Ontario in 2002, when OMAF released a stakeholder discussion paper³³ and undertook consultation with stakeholders, commodity groups and agri-food partners.³⁴ A steering committee and five working groups were established³⁵ and it is anticipated that their final report will be completed shortly. This is a very important initiative and it is my hope that OMAF will review and finalize a formal on-farm food safety strategy and framework for Ontario at the earliest opportunity.

The various working groups have made a number of recommendations to date to which I would add my support. One suggestion is that a provincial OFFS initiative be administered by a coalition of commodity groups, industry and governments.³⁶ It seems to me this approach, if properly supported, is a sensible one that would effectively focus the efforts of all interested partners on the common goal. It will be important to ensure that all stakeholders, including smaller mixed livestock farms, are represented.

³³ OMAF, *On-Farm Food Safety Programs in Ontario Discussion Paper*, (March 2002), available from <http://www.gov.on.ca/OMAFRA/english/offfs/facts/bacground.htm> [accessed 10 March 2004]

³⁴ OMAF, *On-Farm Food Safety Strategy For Ontario*, 16 January 2004), available from <http://www.gov.on.ca/OMAFRA/english/offfs/facts/strategy.htm>, [accessed 10 March 2004].

³⁵ *Supra* note 33. The groups include an OMAF staff person and stakeholder participants. Each group developed a vision, options, estimated resource requirements, priority actions and associated timelines, with a final report to the Steering Committee by May 2004.

³⁶ OMAF, OFFS Working Group 2 *Administration and Infrastructure Monthly Progress Report*, (5 April 2004), available from http://www.gov.on.ca/OMAFRA/english/offfs/facts/prog_gr2.htm, [accessed 30 April 2004].

Another recommendation is to use a modular approach and staged implementation for the OFFS program, which meets “market demands, is flexible, is cost recoverable and sustainable.”³⁷ The suggestion is to take the common elements of the various OFFS initiatives that have been developed for different commodities and put priority on developing prototypes for record keeping, education and training and audit checklists. I also support this recommendation, particularly where modules relating to good production practices and prerequisite programs can be put in place now and farmers can be reinforced to document these practices with easy-to-use tools that are not bureaucratic, cumbersome or expensive to administer.

There is also a recommendation for a science-based system to measure the effectiveness of Ontario OFFS initiatives over a five-year period. This would include establishing OFFS objectives for each commodity for the reduction of identified risks and monitoring progress of the program implemented to achieve those objectives.³⁸ This is consistent with my recommendation that food safety requirements for meat production be connected to known risks and that disease surveillance and other evaluation methods be used to monitor progress and identify any new concerns. There is limited scientific evidence linking on-farm food safety initiatives for livestock farms with foodborne illness reduction and further study will be necessary to measure their effectiveness.

OFFS programs require recognition if they are to have meaning within the marketplace, which is an important incentive for many farmers to participate in these programs. Clearly, any provincial recognition program should complement the extensive work that has gone into developing the national recognition program. A suggestion has been that OMAF recognize provincial OFFS programs for those commodities where no CFIA nationally

³⁷ OMAF, OFFS Working Group 1 *Program Integration and Coordination Monthly Progress Report*. (1 March 2004), available from http://www.gov.on.ca/OMAFRA/english/offfs/facts/prog_gr101.htm [accessed April 30, 2004].

³⁸ Specific suggestions include: baseline studies, monitoring CCP's for compliance and record-keeping; collecting information on existing and emerging hazards; a web-based list of existing corrective actions; and a communication strategy to inform stakeholders and develop strong linkages for information to and from the national program. See OMAF OFFS Working Group 4, *Program Evaluation and Enhancement Final Progress Report*, (22 April 2004), http://www.gov.on.ca/OMAFRA/english/offfs/facts/prog_gr4.htm [accessed April 30, 2004].

recognized program exists.³⁹ I believe this suggestion is consistent with the development of a staged approach that will also allow for as much harmonization with national CFIA programs as producers can realistically achieve.

Some farms are well on their way to implementing OFFS plans. For the rest, I believe the provincial government will need to put a framework in place. In my view, it is only logical to implement a mandatory requirement that all farms have HACCP-based OFFS plans and that key pre-requisite programs be required by regulation. There is already a strong buy-in to the concept by livestock producers in Ontario and others along the food continuum, although their preference is to keep it voluntary.⁴⁰ Therefore, a progressive approach may be required for producers, beginning with farms assessing what their practices currently are, building awareness about good agricultural and production practices that reduce foodborne hazards and necessary prerequisite programs, identifying where their practices fall short and developing an action plan to achieve a HACCP-based OFFS plan in the future.⁴¹ A similar approach is currently undertaken by farmers who develop an environmental farm plan.⁴²

The Ontario OFFS framework should lay out a process, with incentives and requirements, that provide for training and support to farmers to make

³⁹ OMAF, OFFS Working Group 3 *Program Recognition Monthly Progress Report*, (2 April 2004), available from http://www.gov.on.ca/OMAFRA/english/offfs/facts/prog_gr3.htm [accessed 30 April 2004].

⁴⁰ Five organizations representing 34,000 Ontario livestock producers recommended HACCP on-farm food safety programs, instead of licensing of farms, as the basis for ensuring consumers have a safe food supply. Ontario Cattlemen's Association, Ontario Pork, Ontario Sheep Marketing Agency, Ontario Cattle Feeder's Association, Ontario Veal Association, *Joint Submission Regarding Bill 87, FSQA*, (November 2001), available from <http://www.ontariosheep.org/Joint%20Sub%20Regarding%20Bill%2087.html>, [accessed 9 March 2004].

⁴¹ See for example, Manitoba Agricultural and Food, *Canadian on-Farm Food Safety: Good Production Practices in Livestock Production to be Used as a Safe Food Production Manual for any Livestock Commodity and as a Reference for completing a Self-Assessment Form*, available from <http://www.gov.mb.ca/agriculture/foodsafety/gpp/index.html> [accessed 9 June 2004].

⁴² The Environmental Farm Plan is a voluntary program, dealing with key on-farm environmental issues, such as disposal of farm waste and safe storage of farm chemicals. Farmers attend a workshop, prepare a self-assessment based on regulations and best practices in a manual, and an action plan to improve their practices. Once the plan is approved by a peer review committee, farmers can apply for funding assistance to implement their plan. See <http://www.gov.on.ca/OMAFRA/english/environment/efp/efp.htm> [accessed 20 April 2004].

steady progress toward a fully recognized and audited HACCP-based OFFS plan that should eventually become mandatory. A somewhat similar approach is being taken with respect to the preparation of nutrient management plans.⁴³

The OFFS framework will need to integrate and parallel initiatives in the marketplace and elsewhere in the food continuum. For some commodities, marketplace demands are making participation in OFFS programs a mandatory requirement for continued market access.⁴⁴ Some supply-managed commodities have announced intentions to make participation in national OFFS programs a mandatory condition of licensing.⁴⁵ As mandatory HACCP programs are implemented by meat processing plants and others in the food continuum, they will require HACCP certified suppliers.⁴⁶ Therefore, in pursuing its goal of increasing the marketability of Ontario's food products, OMAF needs to ensure that OFFS programs keep pace and can be used to meet market demands.

The agri-food industry's leadership role in the area of on-farm food safety should be acknowledged and encouraged to continue in collaboration with the federal and provincial initiatives. A provincial framework, with a clear set of prerequisite programs as outlined in the next section, integrated with the federal framework and flexible to accommodate the wide diversity of farm operations in Ontario, would help Ontario farmers, particularly where reporting and documentation requirements can be streamlined for the

⁴³ Under the *Nutrient Management Act, 2002*, smaller farms have until 2007 to complete their farm nutrient management plan. Low cost nutrient management courses are offered across the province, including training to use the NMN computer program and a copy of the software. Farmers may also hire consultants, who have been accredited by OMAF. See OMAF, *General Requirements for Certification and Licensing*, (9 June 2004), available from <http://www.gov.on.ca/OMAFRA/english/nm/cert/requirements.htm> [accessed 10 June 2004].

⁴⁴ See for example the *Vendor Recognition Program* of the Canadian Council of Grocery Distributors. Their questionnaire for meat and poultry vendors deals with food safety issues (based on HACCP and FSEP requirements) and humane animal treatment, available from <http://www.ccgd.ca/pdf/VRP%20Final%20%20English.pdf>, [accessed 29 April 2004].

⁴⁵ In July, 2001, the Chicken Farmers of Canada Board voted that their COFFS program be made mandatory as soon as administrative systems are in place to support validation processes. The Chicken Farmer, Volume 5, No 3, April 2003, available from www.chicken.ca/pdfs/April2003E.pdf [accessed 10 June 2004].

⁴⁶ As noted earlier, CFIA requires federally licensed plants to implement HACCP plans and the USDA has required all plants to have HACCP plans since 1997. Industry integration also plays a role. For example, the CQA program for pork applies to both producers and processing plants.

different programs. The provincial government should provide leadership in working with the agri-food sector to:

- facilitate overall visioning and consensus development;
- provide strategic funding to influence direction and hasten development and adoption;
- provide technical expertise in program development;
- provide strategic support to industry-led initiatives;
- provide government-led initiatives to complement industry initiatives (e.g. recognition); and
- provide regulatory support to OFFS programs where needed.⁴⁷

I recommend that the Ministry of Agriculture and Food support the development and delivery of an on-farm food safety program specifically targeting small and medium-sized mixed livestock farms in conjunction with the producer groups who represent these farmers.

I recommend that the Ministry of Agriculture and Food work with stakeholders to create a provincial framework for recognition of provincial on-farm food safety programs and that the Ministry recognize provincial programs where no nationally recognized program exists.

4.4 Prerequisite Programs for On-Farm Food Safety Plans in Ontario

4.4.1 Introduction

Before launching HACCP-based programs, there is a requirement for prerequisite programs to be in place. As noted in Chapter 3, these allow for environmental conditions that are favourable for the production of safe food. In the farm context, these are often called good agricultural practices (GAPs) or good production practices (GPPs). Once a pre-requisite program is in place, there must also be a process for determining whether a farmer is in compliance with the program.

⁴⁷ OMAF, *Concept Paper: On-Farm Food Safety Strategy for Ontario and Quality Assurance Initiatives*, (16 January 2004), available from <http://www.gov.on.ca/OMAFRA/english/offfs/facts/concept.htm> [accessed 20 April 2004].

Prerequisite programs are building blocks to a HACCP-based on-farm food safety plan. Existing programs such as the LMEP, and new programs based on the Codes of Practice for the Care and Handling of Animals,⁴⁸ biosecurity, disease surveillance, food handling, and deadstock disposal should be developed into prerequisite programs that can be made mandatory by regulation. A number of these programs may take the form of training, to simply reinforce basic minimum competencies and knowledge of any government regulations or policies. But many of these programs will need to emphasize a new requirement to document what farmers may well be doing all of the time, but not writing down. Forms have been developed for record keeping with respect to prerequisite and HACCP-based procedures, to encourage farmers to “write it, do it, and prove it.” If these become mandatory programs, the use of the forms for certain purposes, such as feed and medicine traceability, may need to be required by regulation.

The CFA has identified a list of on-farm food safety practices to address specific hazards on-farm, which are fairly generic for all livestock⁴⁹ and have formed the basis for many of the national COFFS programs. Many GPPs will be similar for all commodity groups and a few may be specific to a particular animal or production system. These programs have been evolving and newer versions adapted to include the latest recommended procedures.⁵⁰ Development of consensus around GPPs is important in order to provide prerequisite food safety benchmarks for all farms, as they progress to HACCP-based on-farm food safety plans. Wherever possible, prerequisite programs should build on existing programs, a number of which are discussed in this section.

GPPs for livestock producers have been developed for the following: design and management of livestock production facilities and surrounding

⁴⁸ *Infra* note 74.

⁴⁹ Canadian Federation of Agriculture, *An Introduction to On-Farm Food Safety Practices*, (1997), *supra* note 25.

⁵⁰ For example, the revised *Safe, Safer, Safest* manual incorporated CFIA requested biosecurity measures to keep a visitor's log in the restricted area and post signs indicating the barn is a restricted area, *supra* note 45. The 2003 Canadian Sheep Federation manual includes a Declaration of Shipping Status form for farmers to sign, indicating any drug use requiring withdrawal periods or the presence of any physical residues and recommends producers obtain an affidavit from feed suppliers that no ruminant by-products are in the feed, available from http://www.cansheep.ca/english/coffs_practices.htm [accessed 10 June 2004].

premises; cropping and feed production; equipment design, maintenance and calibration; sanitation, biosecurity and pest control for premises and equipment; livestock care and handling, including humane euthanization; livestock treatment; farm chemicals; medical supplies; on-farm processing and storage of feeds; water systems; purchasing; personnel and training; transportation; and product storage.⁵¹

Many OFFS programs use manuals with checklists and forms for producers to fill in, with additional resource and reference material on GPPs. The answers to the checklists are designed to identify the critical control points, from which the producer can develop customized GPPs and protocols suited to his or her farm.⁵²

I recommend that the Ministry of Agriculture and Food establish requirements and training programs for key prerequisite programs for on-farm food safety plans, including good production practices.

These mandatory requirements should be established in consultation and in collaboration with key stakeholders, including producer groups and phased in over a reasonable period of time.

4.4.2 Traceability, Disease Surveillance and Biosecurity

These three issues are discussed in full in Chapter 3, A Science-Based Approach to Food Safety. As noted, traceability for animals, feed, livestock medicines and farm premises are fundamental to a food safety system. Disease surveillance on farm detects zoonotic animal diseases that can enter the food chain and cause foodborne illness to humans in order that farmers can either treat diseased animals or remove them from the food chain

⁵¹ *Ibid.* For commodity examples of GPPs, see *Ontario Veal Quality Assurance Program (OVQAP) – Industry Partners Manual*, *infra* note 52, and the GPPs for Chicken Producers in *Coming soon to a Farm Near You – On-Farm Food Safety*, CFIA news release (11 November 2002). <http://www.inspection.gc.ca/english/corpaffr/tipsidee/ccna/20020301e.shtml> [accessed 4/26/2004].

⁵² For example, the OVQAP producers must complete a manual and maintain Feed and Medication Inventory Forms, Individual Treatment Forms and Animal Movement Forms for at least 3 months. A validator evaluates these documents and the farm operation and if satisfactory, the OVA will certify the herd as an OVQAP herd and issue tamper proof ear tags. Ontario Veal Association, *Ontario Veal Quality Assurance Program, Industry Partners Manual*.

altogether. Biosecurity involves measures to prevent the spread of animal disease from one animal to another on the same farm or between farms.

Farmers are key to implementing these measures to achieve food safety objectives. As well as documenting the measures taken, best practice requirements and training for traceability, disease surveillance and biosecurity should also be built into OFFS programs, either as prerequisite programs or by regulation. As noted earlier, the marketplace is also demanding traceability measures from the retail establishment back to the producers,⁵³ so recommended practices should also be compatible with these requirements.

OMAF and CFIA both play a role in animal disease surveillance and both have prepared various information pieces on animal diseases, particularly contagious and reportable diseases.⁵⁴ They also have prepared resource materials for farmers on biosecurity.⁵⁵ Some commodity groups and farm media also provide this information to their members or readers. However, it does not appear that there is any systematic effort to ensure that all producers actually receive information on reportable or zoonotic diseases. In evaluations of the LMEP, farmers have repeatedly identified the need for more education on disease diagnosis and treatment.⁵⁶ Neither the LMEP manual nor the workshops describe disease conditions of livestock or the various treatments for the conditions, which would be helpful for farmers to receive. It would be particularly helpful for OMAF to develop GPPs and animal husbandry protocols that will reduce environmental and other farm-management factors that contribute to disease and establish farm recordkeeping systems to give farmers pre-emptive and predictive capabilities to avoid disease on-farm.⁵⁷

I recommend that the Ministry of Agriculture and Food ensure that all farmers who raise animals for food receive specific information on

⁵³ *Supra* note 46.

⁵⁴ OMAF, *Livestock Index Page*, available from <http://www.gov.on.ca/OMAFRA/english/livestock/index.html> [accessed 20 April 2004].

⁵⁵ For example, *General Biosecurity Practices*, OMAFRA Info Sheet (21 March 2001) and CFIA, *Farm Biosecurity: A Common Sense Guide* (10 May 2001).

⁵⁶ See Anderson et al, *infra* note 70.

⁵⁷ R. Mochia, *Research Programs (OMAF) – Fish Program*, available from <http://www.uoquelp.ca/research/omaf/animals/fish.shtml> [accessed 29 April 2004].

disease surveillance and reporting for each type of animal, how to access additional resources and their obligations with respect to reporting.

Programs to encourage periodic on-farm animal health visits by veterinarians and province-wide baseline animal health surveys should be encouraged for all commodity groups, particularly where they can support the development of HACCP-based OFFS programs.

4.4.3 Residue Issues

4.4.3.1 Introduction

Harmful residues of veterinary drugs in the meat from animals and residues due to chemical contamination of feed by insecticides, fungicides, or herbicides are a food safety concern. Chemicals applied to crops prior to harvest and grain protectants used during storage are also potential contaminants, as well as mold toxins that may affect food. The risks to humans from these residues may include allergic reactions, poisoning or cancer.⁵⁸

Residues are primarily a food safety issue if they exceed acceptable limits. It is the federal government that largely regulates these matters.⁵⁹ Residues are increasingly a concern to consumers as evidenced by surveys,⁶⁰ as well as the growing market for hormone-free, natural and certified organic meat

⁵⁸ CFIA and FSIS. Cited in: S. Whyte, *Residue control in Canada: Report on the surveillance of antibiotic and hormone residues in meat*. [No date], available from http://www.foodsafetynetwork.ca/food/residue_control_in_canada.htm [accessed 27 March 2004].

⁵⁹ Health Canada and CFIA share responsibility for administering Canada's residue control program. The Veterinary Drugs Directorate approves veterinary drugs and establishes maximum residue limits (MRLs) for chemical compounds in food products. CFIA monitors and enforces these standards through the National Chemical Residues Monitoring Program. Health Canada, *Setting Standards for Maximum Residue Limits (MRLs) of Veterinary Drugs Used in Food-Producing Animals*, (24 January 2003) available from http://www.hc-sc.gc.ca/vetdrugs-medsvet/mrl_maximum_residue_levels_e.html [accessed 6 May 2004]. A Codex draft circulating at Step 6 on Draft Maximum Residue Limits of Veterinary Drugs in Foods, may soon establish international standards. See http://www.hc-sc.gc.ca/food-aliment/friia-raaii/ip-pi/codex/html_doc/e_c103_24_abstract.html [accessed 12 March 2004].

⁶⁰ A 2003 survey found 74% of Americans were concerned about the presence of antibiotics in meat. See <http://www.organicconsumers.org/foodsafety/beef052903.cfm> [accessed 10 June 2004]. A 2003 Ohio State University study found consumers ranked the top three food safety issues as: pesticides in food, contaminated water and growth hormones in meat, see http://www.newfarm.org/news/060103/0612/food_safety.shtml [accessed 10 June 2004].

and poultry. It is not feasible to test every animal for residues of feed or medicines and it is not possible to remove them, once they are in the meat. Therefore, from a risk management perspective, farmers must know the potential sources of residues and ensure their practices prevent harmful residues or animals with harmful levels of residues from getting into the food chain.

There are a number of issues of recent concern, including the use of hormonal growth promotants, emergence of drug-resistant bacteria that may be linked to the use of antimicrobial drugs in the production of animals,⁶¹ and “off-label” use of livestock medicines.⁶² The provincial government does not exercise legislative authority over these issues, however, to the extent that provincial OFFS programs can minimize the risks associated with using these drugs and the LMEP can encourage proper practices, provincial initiatives can have a positive impact. Proper treatment protocols, identification of treated animals, accurate record keeping, adherence to withdrawal times, only using drugs approved for specific animals, careful use of medicated feeds and topical treatments as well as testing of purchased animals can all minimize accidental introduction of residues into meat animals and should be required practices in OFFS programs.

4.4.3.2 Residues due to Livestock Medicines and Antimicrobial Drugs

There are a number of sources of information for Ontario livestock producers on residue avoidance.⁶³ The Ontario LMEP is a voluntary

⁶¹ The WHO and others are concerned about the passage of drug resistant varieties of *Salmonella* and *Campylobacter* from livestock to humans. See USDA Economic Research Service, *Livestock Drugs: More Questions than Answers?* Agricultural Outlook, (September 2001). The EU has banned the livestock use of growth promoting hormones and antimicrobial drugs that are also used for humans. Health Canada is developing a comprehensive regulatory policy on antimicrobial resistance.

⁶² A drug that has been tested and approved for one type of animal, but is used for another type is called “extra” or “off” label use. It is not permitted in Canada unless prescribed by the producer’s veterinarian, because withdrawal standards and dosage rates are species-specific. The Canadian policy is described in: CFIA, *Canada’s Response to European Commission Mission Carried out to Evaluate the Control of Residues In Live Animals and Animal Products*, 15 December 2000, available from <http://www.inspection.gc.ca/english/anima/meavia/eu/20001215eue.shtml> [accessed 6 May 2004]

⁶³ Producers get their information about medicine use from their veterinarian (70%) or from the label or Compendium of Veterinary Pharmaceutical Products (44%) – see *infra* Anderson et al, note 70. *The Food Animal Residue Avoidance Databank*, FARAD, a computerized data bank of

program, which promotes the responsible use and safe handling of livestock medicines used on-farm. It provides commodity-based training courses for livestock producers of dairy, beef, veal, sheep and goat, poultry, equine, bees, and fur-bearing animals.⁶⁴

LMEP courses are taught by trained veterinarians and reinforce the following good practices: the purchase of vaccines, antibacterials and other medications from licensed livestock medicine outlets or the herd veterinarian; proper storage and handling; attention to the label for proper dosage information, expiry date and a Drug Identification Number (DIN) indicating that it is approved in Canada; reading and retaining the package inserts; and keeping a medication inventory form and record of drug use for each animal.

The completion of the LMEP can be integrated as a mandatory requirement of OFFS programs.⁶⁵ Alternatively, completion of the program could be made a mandatory prerequisite to purchase livestock medicines by the government,⁶⁶ in a similar manner to what is currently required for purchasing certain pesticides.⁶⁷

The College of Veterinarians of Ontario has further recommended that the government make all microbials used for disease treatment and control available by prescription only.⁶⁸ Other countries, such as Denmark have

residue avoidance information on approved medications for farm animals is available from <http://www.farad.org/faradpro/> [accessed 10 June 2004].

⁶⁴ LMEP is delivered by Ridgeway College, University of Guelph. It was developed by the Livestock Medicines Education Committee, representing commodity and industry partners. Participants attend a workshop, receive a binder with reference materials and pass an exam to obtain a certificate. The fee is \$60 (\$100 for Equine). See <http://ontariolivestockmed.com/Default.htm> [accessed 14 April 2004].

⁶⁵ The OVQAP requires completion of LMEP by the end of the third year of participation. Other programs list these practices as GPPs as in *Quality Starts Here*, available from http://www.qualitystartshere.pn.ca/guide/06_practices.html [accessed 29 April 2004].

⁶⁶ Producers were told this would be the case after March 31, 2003, but this was delayed until further policy analysis could be completed. See <http://ontariolivestockmed.com/Default.htm> [accessed 14 April 2004].

⁶⁷ O. Reg. 914 under the *Pesticides Act* (Ontario) makes it mandatory for farmers to be certified through the *Grower Pesticide Safety Course* in order to buy and use Schedules 1, 2 or 5 pesticides on land they farm. Over 28,000 Ontario farmers are Certified Growers. See <http://www.ridgetownc.com/opep/growertraining/GrowerTraining.htm>, [accessed 28 April 2004].

⁶⁸ OVC Spring 2003 UPDATE, Vol 19 No.2, letter to Agricultural Minister: "The College, therefore endorses the recent '*Uses of Antimicrobials in Food Animals in Canada: Impact on Resistance and Human Health*, Report of the Advisory Committee on Animal Uses of

banned sulfa drugs from livestock medications and now require all medication meant for food producing animals to be obtained by prescription.⁶⁹

Although record keeping and inventory control is stressed in the LMED course, an evaluation of the program noted many farmers did not carry through and do so, in spite of good intentions.⁷⁰ The poultry industry requires producers to prepare flock information sheets to accompany poultry to the processor, outlining all medications administered. By requiring this record to accompany the animal to disposition, inspectors will be alerted to potential residue problems. This is an important aspect of traceability and OFFS.

The successful completion of the LMED should be a prerequisite program and good production practices based on the LMED, including medication tracking records for each animal, should be an ongoing part of Ontario OFFS programs.

I recommend that the provincial government promulgate a regulation prohibiting the sale of livestock medicines or feed additives to any person not holding a Livestock Medicines Education Program Certificate.

4.4.3.3 Residues due to Feed

One possible source of residues in meat is feed given to animals to eat. The regulation of feeds, including medicated feeds, is a federal issue, but OFFS programs can require good production practices with respect to feed, which can have significant preventative and traceback effects on feed residues.⁷¹

Antimicrobial and Impact on Resistance and Human Health.' This report, prepared for Veterinary Drugs Directorate, Health Canada, recommends that the government 'make all antimicrobials used for disease treatment and control available by prescription only.' The College...encourages OMAF to take the very important step of eliminating the availability of these drugs through an LMO." See www.cvo.org [accessed 29 April 2004].

⁶⁹ Ontario Veal Association, *OVQAP*, *infra* note 52.

⁷⁰ Anderson, et al. *Changing Attitudes and Actions—Livestock Medicines Courses in Ontario*, OMAF, (1999) available from <http://www.gov.on.ca/OMAFRA/english/livestock/animalcare/amr/facts/anderson.htm> [accessed 14 April 2004].

⁷¹ For example, Ontario Cattlemen's Association lists 8 GPPs to ensure feed medications are stored separately, properly labeled, accurately measured, administered to the right animals,

OFFS programs emphasize preventing cross-contamination of feed by properly cleaning equipment used in moving or mixing feed. As well, proper sanitation and pest control programs will ensure that biological contamination, such as molds, of feed does not occur.

Since June 2000, the Codex Alimentarius Commission's Ad Hoc Intergovernmental Task Force on Animal Feeding has been developing a *Code of Practice on Good Animal Feeding*, which itemizes the minimum standards for good animal feeding practices on-farm and good manufacturing practices during the harvesting, handling, storage, processing and distribution of feed and feed ingredients for food-producing animals.⁷² This Code may be a helpful source for OFFS standards.

Good production practices on animal feeding should be included in OFFS programs, including record keeping for traceability.

4.4.4 Animal Welfare and Handling

4.4.4.1 Introduction

A number of groups who made submissions to the Review were primarily concerned with animal welfare issues for livestock. Studies have shown that stress results in reduced feed conversion, greater production of manure, a decrease in the level of immunity and an increase in the excretion rate of pathogenic bacteria in the feces of stressed animals.⁷³ However, there is no conclusive link between these results and subsequent foodborne illness in humans. Nevertheless, efforts to prevent food safety hazards should focus on minimizing stress as well as ensuring that certain sick or injured animals do not get into the food chain.

equipment is flushed to prevent contamination, ruminant derived feed is not purchased, etc. http://www.qualitystartshere.on.ca/guide/06_practices.html [accessed 29 April 2004].

⁷² J. Murphy, OMAF, *International Standards on Good Animal Feeding are on the Horizon*, (2004), available from http://www.gov.on.ca/OMAFRA/english/livestock/swine/facts/info_feeding.htm [accessed 27 April 2004]. It is expected to be adopted in 2004. Draft code available from <ftp://ftp.fao.org/codex/alinorm03/AI0338ae.pdf> [last updated 1 February 2004].

⁷³ Ontario Veal Association, OVQAP, *infra*, note 52.

4.4.4.2 Safe Animal Handling and Transportation

There are a series of *Recommended Codes of Practice for the Care and Handling of Farm Animals* that have been developed by the Canadian Agri-Food Research Council (CARC) over many years.⁷⁴ These are voluntary and not intended as production manuals, but rather as education tools in promoting sound husbandry and welfare practices. They provide detailed information on how to handle animals safely, including shelter and housing, density, feed and water, pasture, herd or flock management, birthing and weaning, and humane euthanasia. However, since these programs are voluntary, there is no way to verify that farmers or workers are receiving or implementing the training.

Although the scientific evidence of the link between animal stress and food safety is not extensive, this is an increasingly important issue for consumers and, in some respects, the market is imposing new animal welfare standards on the producers and they are increasingly included in quality assurance programs. A number of U.S. retailers and restaurants have instituted animal handling policies that relate to the care, housing, transport and slaughter of livestock from which their products are derived. Suppliers are audited against this standard. In some cases, these standards have carried over to their Canadian counterparts.⁷⁵ There is also a parallel move to “humane labeling” in the U.S.,⁷⁶ the U.K.⁷⁷ and British Columbia.⁷⁸

⁷⁴ A specific Code of Practice for the Care and Handling is available for: bison, deer, horses, sheep, veal calves, beef cattle, dairy cattle, mink, pigs, ranches, fox, goats, chickens, turkey and breeders from hatchery to processing plant, poultry-layers, and early weaned pigs. The Codes were updated or created in 1995 by CARC, along with the Canadian Federation of Humane Societies and others. See http://www.carc-crac.ca/English/codes_of_practice/index.htm [accessed 14 April 2004].

⁷⁵ 2003 *BKC Animal Handling Policy*, available from http://www.burgerking.com/CompanyInfo/public_policies/2003.aspx [accessed 14 April 2004]. An initiative of the Food Marketing Institute (FMI) and the National Council of Chain Restaurants (NCCR) in the U.S. to develop a consistent industry-wide system of animal welfare guidelines and audits for suppliers will also impact U.S. owned Canadian companies, as well as Canadian suppliers once it is in place. See H. Mayer, *Animal Welfare Verification in Canada: A Discussion Paper*, George Morris Centre, (September 2002).

⁷⁶ The American Humane Association has introduced animal welfare guidelines for producers with a “Free Farmed” certification. They prohibit widely accepted practices such as induced molting and administering antibiotics as growth promoters. See *Humane labelling latest niche*, Journal of the American Veterinary Medical Association, (November 15, 2000), available from <http://www.avma.org/onlnews/javma/nov00/s111500d.asp> [accessed 14 April 2004].

⁷⁷ The Royal Society for the Prevention of Cruelty to Animals launched its “Freedom Food” brand in 1994 as an alternative food brand certified from humanely raised animals.

The Ontario Farm Animal Council (OFAC)⁷⁹ web page on animal care, provides links to a wide range of animal care resources and they also operate an Animal Care Helpline Service, which assists farmers in providing adequate or improved care for their animals through advice and referral and liaison with the Ontario Society for the Prevention of Cruelty to Animals (OSPCA).⁸⁰ Commodity groups have generally been including information on animal welfare and the above noted codes of practice in recently developed on-farm food safety manuals.⁸¹ In order to maximize producers' ability to respond to market requirements as well as food safety requirements, some flexibility in the OFFS programs to incorporate animal welfare concerns and standards, as well as auditing capacity, will be important to avoid duplication and conflicting standards. Some programs already address food quality issues, as well as food safety, which demonstrates that it is possible to combine program components.⁸² Any system should also be flexible enough to accommodate changing standards in animal husbandry practices and animal welfare standards.

Good production practices for animal welfare, handling and transportation should be included as part of the OFFS programs.

4.4.5 Non-Ambulatory Animals or Downers and Deadstock

Animals that have become disabled and non-ambulatory are of particular concern with respect to animal welfare. A brochure prepared by the OFAC entitled "Preventing and Handling Non-Ambulatory Livestock on the Farm" provides information for farmers on how to deal with this concern.⁸³ Training on these matters, including humane euthanasia, should be part of

⁷⁸ L. Mobray, *SPCA Certified Standards for the Raising and Handling of Laying Hens*, BC SPCA (Updated October 2001), available from www.sPCA.bc.ca/farm [accessed on 10 June 2004].

⁷⁹ *Supra* note 20.

⁸⁰ See www.ofac.org/links.html [accessed 6 May 2004]; <http://ofac.org/anicare.html> [accessed 6 May 2004]. OFAC refers cases to the OSPCA and vice versa and offers to accompany OSPCA inspectors onto farms to assist. See letter to the editor from Leslie Ballentine, Public Affairs Director, OFAC, *Wendell Palmer vs. the Humane Society – the readers respond*, available from <http://www.betterfarming.com/archive/2004/jan04-3.htm> [accessed 6 May 2004].

⁸¹ *Supra* note 74; for example, Chicken Farmers of Canada, *Safe, Safer, Safest*, *supra* notes 30 and 45.

⁸² For example, Ontario Veal Association, *OVQAP* *infra* note 52.

⁸³ See <http://www.ofac.org/ambulat.html> [accessed 6 May 2004].

any OFFS program. The transport and slaughter of non-ambulatory animals is dealt with in subsequent Chapters.

Deadstock disposal issues are discussed in full in Chapter 7. Currently, the Environmental Farm Plan provides information on the requirements for proper handling of deadstock on farms. This will need to be updated to incorporate any new requirements in the regulations under the *Nutrient Management Act, 2002* and the regulations under the *FSQA*, if the *DADA* is repealed.⁸⁴ In particular, any requirements for record keeping for traceability, disease surveillance and testing (e.g. BSE) or monitoring should be incorporated in training for OFFS plans.

I recommend that the Ministry of Agriculture and Food provide training on safe and proper handling of non-ambulatory animals on-farm, humane euthanasia, and on-farm disposal of livestock and poultry mortalities.

Good production practices on these matters should also be a component of or a prerequisite program for OFFS programs.

4.5 Training and Certification

4.5.1 Education and Training on On-Farm Food Safety Programs

As noted in Chapter 3, awareness, education and training are fundamental to overcoming barriers to implementing HACCP, particularly in small and medium sized enterprises. Researchers have identified similar barriers to successful implementation of HACCP-based OFFS programs.⁸⁵ The CFA has produced education materials for producers,⁸⁶ and each national commodity group is developing their own OFFS manuals and training materials based on HACCP principles.

⁸⁴ For example, G. Koebel, A. Rafail & J. Morris, OMAF, FACTSHEET No. 03-083 *On-Farm Composting of Livestock and Poultry Mortalities* (November 2003).

⁸⁵ *Expert Advisory Panel Report, supra* note 24, p.10. Three barriers identified included: knowledge barriers, attitudinal barriers and behaviour barriers, including time and resources.

⁸⁶ For example, see *Introduction to On-Farm Food Safety*, a 27-page information booklet and quarterly COFFS newsletters.
http://www.cfafca.ca/english/programs_and_projects/onfarm_food_safety.html, [accessed 29 March 2004].

The ongoing training of staff on food safety aspects of the operation is a fundamental element of HACCP programs. HACCP programs also require recordkeeping for verification that training has actually occurred. A comprehensive staff training package dealing with HACCP, prerequisite programs as outlined above, good production practices for animal health and disease prevention, needs the collaboration of a number of groups to prepare, update and deliver it. One study discussed in Chapter 3, on implementing HACCP-based OFFS programs, stressed the need for OMAF to be directly involved, particularly with respect to small and medium operations and to direct financial assistance to lower the cost of providing support services needed for HACCP-based programs, particularly training, extension⁸⁷ and resource materials such as sector specific HACCP guides. The study suggested that one or two key industry associations could be selected to receive government funds to staff food safety positions to support extension and training activities, as well as a number of regional government positions.

I believe that OMAF will need to implement these measures for small and medium sized farms that may experience difficulties participating in the national commodity OFFS programs, if we are to achieve the objective of all farms having an OFFS plan. These initiatives must be done in collaboration with the industry, but clear leadership and funding will need to be allocated within the Ministry. It also seems clear that in this area, OMAF needs to reinforce extension education. For example, the Expert Advisory Panel noted:

It is not enough to provide a set of guidelines and expect producers to comply with standards. Industry organizations and their producer members must be provided with ongoing information, a two-way dialogue, and support that will promote the adoption of new practices. Recent research has shown that producers prefer to have on-site visits when learning about food safety production practices, and will implement procedures

⁸⁷ Extension programs involve outreach and education to individual farmers in their communities or on their farm. Specific extension education departments and programs encourage farmers to download information and enrol in distance education programs.

correctly when shown in terms specific to their site. It has been argued that on-farm food safety programs should not waste money by putting producers in classrooms; rather, available funds need to be invested into effective on-site visits.⁸⁸

This is consistent with evaluations of the LMEP, which observed that one-on-one interactions on farm were well received and encouraged on-farm audits as an opportunity for education:

Producers are not likely to implement innovations after taking a four-hour workshop. Extension education is a matter of constantly reinforcing and repeating a message until it starts to sink in.⁸⁹

OMAF should also develop a program to certify OFFS planning consultants and consider developing a subsidy or incentive program to facilitate plan development, as has been done for Ontario environmental farm plans and nutrient management plans.

The recent APF Canada-Ontario Implementation Agreement explicitly requires that the Province of Ontario provide funding to support food safety, education and training programs.⁹⁰

OMAF should develop accredited training programs, focussed on pre-requisite programs and record-keeping, within the provincial OFFS framework and facilitate their delivery across the province to ensure accessibility by all farmers and their employees.

4.6 On-Farm Food Safety Programs in Other Jurisdictions

Although many other jurisdictions have adopted a farm to fork approach to food safety, only a few have extended HACCP-based programs to the production level and these tend to be voluntary and industry sponsored, with government support. A number of jurisdictions have developed quality assurance programs, which build in a number of features related to food

⁸⁸ *Expert Advisory Panel Report, supra* note 24, p.10.

⁸⁹ Anderson et al, *supra* note 70.

⁹⁰ APF Canada-Ontario Implementation Agreement, Annex E-Federal and Provincial Measures Plan 1.0 Food Safety and Food Quality, ss.1.2 and 1.2.1, available from http://www.agr.gc.ca/cb/apf/index_e.php?section=info&group=impl&page=on_11 [accessed 29 April 2004].

safety, such as traceability and preventing residues, as well as food quality, and animal welfare guidelines.

The U.K. British Farm Standard, includes food safety, animal welfare and environmental stewardship, provides licensing for producers through an independent organization and the right to use a logo. It operates throughout the food continuum and it is sector specific for beef, lamb, pork and poultry. Traceability is built in with cattle having their own passports.⁹¹

Australian producers have recently adopted a new OFFS program entitled Livestock Production Assurance (LPA), which builds in traceability and on-farm record keeping, through a National Vendor Declaration waybill, required by all major livestock purchasers. Their quality assurance program covers the whole food chain, including saleyards, meat processing, butchers and export and is user-pay and externally audited.⁹²

The U.S. approach to implementing “pre-harvest food safety” emphasizes the “ripple” effect on producers, which relies on mandatory HACCP requirements for meat and poultry plants and pressure from the retail industry, such as fast food restaurants, to ensure compliance on the farm. Government efforts focus on education of producers, encouragement of voluntary adoption of HACCP-compatible practices, third-party certification programs and sector specific initiatives,⁹³ research to address gaps in the science knowledge in this area, and conducting farm-to-table risk assessments.⁹⁴

Alberta and Manitoba both provide OFFS support to their producers to adopt COFFS programs. Alberta has identified its role as ensuring producers

⁹¹ See <http://www.littleredtractor.org.uk/whatis.asp> [accessed 9 June 2004].

⁹² MeatNews.Com, *Development of new Australian livestock assurance scheme is on track* (June 17, 2003), available from <http://www.meatnews.com/index.cfm?fuseaction=Particle&artNum=5598> [accessed 18 May 2004].

⁹³ National Cattlemen's Beef Association, *Beef industry leaders encouraged by significant reductions in E. coli incidence*. (Posted 5/4/2004) available from http://foodhaccp.com/msgboard.mv?parm_func=showmsg+parm_msgnum=1015261 [accessed 18 May 2004].

⁹⁴ T.J. Billy, *Implementing Pre-Harvest Food Safety – The U.S. Approach*, Remarks on behalf of FSIS/USDA to WHO Consultation on Pre-Harvest Food Safety, (2001) available from http://www.fsis.usda.gov/oa/speeches/2001/tb_preharvest.htm [accessed 8 June 2004].

have the tools and resources to adopt OFFS programs for their commodities, being flexible in delivery of this support, and providing technical expertise and auditing functions when requested by industry.⁹⁵ Manitoba has developed a manual and self-assessment form for producers, based on the COFFS program.⁹⁶ Saskatchewan has passed legislation to license delivery agents and recognize on-farm quality assurance programs.⁹⁷

4.7 On-Farm Slaughter

4.7.1 Introduction

Notwithstanding the provisions of the *Meat Inspection Act* (Ontario) that require the inspection of all livestock that is slaughtered for the purpose of processing meat into food for human consumption, producers of livestock are permitted to slaughter their own animals, on their own premises, for consumption by themselves and their immediate family.⁹⁸ Although this represents a very small portion of the total volume of meat produced for human consumption, this exemption engages the same animal welfare and food safety concerns that arise with illegal slaughter.⁹⁹

4.7.2 Animal Welfare

Several animal welfare groups¹⁰⁰ advocate the regulation or abolition of uninspected on-farm slaughter to eliminate the undue suffering that results from inhumane slaughter when the animal is not properly stunned and exsanguinated because of ignorance of proper slaughter procedures or disregard for the welfare of the animal.

⁹⁵ Agriculture, Food and Rural Development, *On-Farm Food Safety* (2002), available from [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/afs4361?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/afs4361?opendocument) [accessed 9 June 2004].

⁹⁶ *Supra* note 41.

⁹⁷ *On-Farm Quality Assurance Programs Act*, S.S. 1998, c.O-4.1.

⁹⁸ O.Reg. 632/92, s. 2(1). Section 2(2) also waives the inspection requirement for an operator of an abattoir who slaughters poultry for a producer, for consumption by that producer and his or her immediate family, where the abattoir is operated solely for the custom slaughtering of poultry for producers. There are no plants currently licensed to conduct such slaughter, and in my view, there is no justification for continuing this exemption.

⁹⁹ Illegal slaughter is uninspected slaughter by someone who is not a producer or uninspected slaughter by a producer for consumption by persons outside his or her immediate family.

¹⁰⁰ Ontario Society for the Prevention of Cruelty to Animals, the Humane Society of Canada, the Animal Alliance of Canada and the Canadian Coalition for Farm Animals.

On the basis of the information I have received and the submissions to this Review, I am satisfied that such mistreatment does occur and needs to be addressed with more education and better enforcement, but I am not satisfied that this is typical of most on-farm slaughter. As industrialized agriculture has become, livestock producers are still fiercely independent and extremely proud of their rural heritage. Many farmers rely on their own livestock as a source of food for their families, although fewer and fewer slaughter animals on the farm. Today, they are more likely to transport the animal to a local abattoir to be slaughtered and dressed. Nonetheless, farmers and livestock producers' associations,¹⁰¹ want to see the exemption retained. For them, the elimination of on-farm slaughter represents the prohibition of something that is fundamental to their way of life.

4.7.3 Food Safety

All of the health issues that arise with respect to the production of uninspected meat apply to on-farm slaughter. Currently, there are no regulations or standards. I presume the governing assumption is that the producers will take the necessary steps to ensure the meat is safe because the health of themselves and their families is at stake. Unfortunately, inherent in that proposition is the further assumption that the producer has the necessary knowledge and equipment to produce wholesome meat. In many cases this may be so, but the consequences of ignorance in the production of meat can be serious.

4.7.4 Conclusion

In my opinion, the elimination of uninspected slaughter can be justified on both animal welfare and food safety grounds, but I also respect the position of those in the farming community and appreciate that such a prohibition would be an affront to those capable and caring farmers who slaughter on-farm in a humane and sanitary manner. I am also sensitive to the fact that an all-out prohibition of slaughter on Ontario's 30,000 farms with livestock would be extremely difficult to enforce.

¹⁰¹ Ontario Independent Meat Processors, Ontario Cattlemen's Association, Ontario Federation of Agriculture, National Farmer's Union, Ontario Veal Association and Ontario Sheep Marketing Agency.

My view is that on-farm slaughter for personal use should be exempt from inspection but should, by regulation, be subject to the requirement that animal slaughter be undertaken in a prescribed, humane manner and the processing of the meat done under prescribed sanitary conditions. Such regulation should be undertaken in conjunction with an education program that provides information on proper slaughter, meat cutting and food safety.

I recommend that regulations made under the *Food Safety and Quality Act, 2001* prescribe and describe acceptable procedures and equipment for on-farm slaughter and dressing.¹⁰²

4.8 On-Farm Sales to Consumers

Farmers that sell meat and poultry products directly to the public at farm gate, through farmers' markets or through custom order and delivery are subject to the same risks of food contamination as many other retail operations. It is legal to sell these products, provided they are produced from animals slaughtered at a licensed abattoir. But, improper food storage, cross-contamination and other food handler sources of foodborne illness can arise in farm sales, as in a butcher or retail store. Therefore, farm gate sales and the persons involved in these activities should be subject to the same requirement for food handler training, as required of other retailers later in the continuum. Any farmers processing meat at their farm should be subject to the same requirements as all meat processors.

Currently, all public health units provide food handler training and certification to owners and operators of retail outlets and food service premises. This training could be adapted to include additional components that would be relevant to farm gate or farmers' market sales.¹⁰³ Commodity groups and OMAF could develop their own training programs as part of or separate from OFFS programs. Whatever the approach, it should be consistent across the whole province.

¹⁰² See for example M. Alexander et al, *Home Slaughtering and Processing of Beef*, available from <http://muextension.missouri.edu/explore/aquidides/ansci/q02208.htm> [accessed 24 April 2004].

¹⁰³ Several health units have developed food safety materials for farmers' markets, which are required to be inspected by public health inspectors.

No vendor should be permitted to sell at any public location, such as a farmers' market, without food handler training. Issues of food safety relating to food premises generally are discussed in full in the Chapter on Meat Retail and Distribution.

I recommend that farmers who sell meat or poultry products directly to the public be subject to the same standards, level of inspection and food handler training requirements as any other retailer.

4.9 On-Farm Inspection

At present, inspection rarely happens on-farm with respect to food safety or animal health. The exception to this is in the supply-managed sectors, such as dairy, eggs and chicken, where inspectors ensure compliance with quota and other requirements of their marketing boards.¹⁰⁴ For example, the Dairy Farmers of Ontario undertakes extensive food safety and quality inspections on dairy farms on behalf of OMAF. OSPCA inspectors have powers to enter farms to ensure animal welfare.

When prerequisite programs and mandatory OFFS programs are implemented, there will need to be inspection, verification and auditing of these programs. OMAF, in consultation with industry and commodity groups, will need to determine which elements of the OFFS framework may require government inspection, verification, or independent third-party auditors.

¹⁰⁴ *Supra* note 10.