ON FARM FOOD SAFETY

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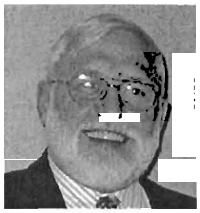

SHORT BIOGRAPHY

Dr. Wruck is a Veterinarian with Manitoba Agriculture and works currently in the area of on-farm food safety programs.

On-Farm Food Safety Programs

Over the years through various existing programs, producers have become sensitive to the importance of food safety and concerned about their liability as a producer. Livestock producers have generally taken steps to insure that withdrawal times are observed for all drugs and that medicated feed is prepared and used in the correct fashion. Consequently, the incidence of drug residues in meat products above the Maximum Residue Limit is very low and in the order of one-tenth of a percent of all meat products.

In spite of this there is still concern about food safety issues in food especially as it relates to trade with other countries. Even though a food product may be suitable for consumption it can be refused by our foreign customers if it does not meet agreed upon national and international standards. Some countries have their standards such as non-detectable for a maximum residue limit for some chemicals. Most countries are moving to Codex Alimentarius standards however.

In the five years leading to 1999, considerable discussion has occurred in livestock production industries in Canada about how to address the issues relating to food safety. Some of this discussion resulted after marginal, isolated incidents of residue violations arising from the producer level for chemical and physical residues that occurred with our trading partners. This raises very serious issues for Canada as a food exporter that need to be addressed. How can Canada as a food exporter assure foreign customers that the food products they receive from us meet their requirements for food safety during production and processing?

In response, Agriculture and Agri-Food Canada has provided funding to producer commodity groups in Canada to develop their own specific on-farm food safety programs. In Canada, most of the major livestock commodity groups are in the process of developing on-farm food safety programs for their individual commodities. These programs are designed to be producer led and implemented and developed using the HACCP principles.

At the farm level, the seven HACCP principles as used in processing are being used to develop on-farm food safety programs. The approach is somewhat different as compared to a food processing plant. The on-farm program will be HACCP-based rather than a true HACCP program. In a HACCP-based program, individual producers will not be required to work through all the seven principles of HACCP. This will have been done for him /her in the generic HACCP-based model. The information from this exercise is added to the Good Production Practices and in-turn used to create an Assessment Form that a producer can use to apply, develop and implement a HACCP-based on-farm food safety program for his /her farm. The on-farm HACCP-based programs will help to assure the safety and wholesomeness of food products produced in Canada.

On-farm food safety programs of any kind can be characterised to programs where there is sufficient knowledge available to control an identified hazard and to those where there is not sufficient knowledge. When there is not sufficient knowledge available to control a hazard there may be steps at the farm level that could be taken to reduce the incidence of the identified hazard. This is the situation for many of the biological residues for example, which could be

found in processed food products. In any event, most biological residues will continue to be controlled during the processing.

Generally, there is sufficient knowledge of the chemical and physical residues in food to develop and implement procedures at the farm level to effectively control these residues. In addition, there are procedures to detect for the presence of many known chemical residues in minute quantities in food products. A considerable portion of most HACCP-based programs for livestock production will focus on preventing and controlling potential chemical and physical residues, which could be found in livestock products. There is no other point in the food production chain where these residues can effectively be controlled. The only exceptions will be with the handling of milk and eggs while on-farm before shipment to maintain quality and freshness

A major part of current on-farm food safety programs will focus on the proper procedures to follow when using antibacterial drugs during production. These procedures will include the planning, use and documentation of all drugs used during production. In short, producers will be expected to, "Write what they do." Then, they will, "Do what they write." Finally, producers will be expected to, "Prove what they have done is working." This proof will usually be from records kept by the producer

Although, "Write It", "Do It" and "Prove It" may sound simple, it really involves documenting the performance of all the activities required to control or reduce a specific food safety hazard. A producer will be expected to write out his /her planned activities to control an identified hazard. He will also need to record his /her monitoring or treatment activities as he /she does what he /she says he /she will do. He /she will then need to prove that his /her production system is working as planned through his /her verification and validation procedures.

An essential component of any HACCP system is commitment. Commitment is essential to develop, implement and maintain the production processes that are required to control or minimise food safety hazards. It is essential that the production processes required to produce safe food must be in place and operating according to plan at all times.

On-farm food safety programs to control biological hazards will be limited. Several of the known biological hazards such as *E. coli O157: H7* or *Salmonella* are frequently present in livestock populations but do not cause clinical disease. At the present time, there is not enough known about their prevalence and distribution in the environment to allow the development of effective programs to control many biological hazards completely at the farm level.

More work is required to develop practical programs of control for biological residues at the farm level. Several proposals with some merit have been suggested to control biological hazards, but they have limitations. They include programs of trace-back and eradication, live animal testing, routine farm inspections, vaccination, pre-slaughter measures and ecologic measures involving reduction in feed contamination and competitive exclusion. For the most part the biological residues of current concern do not respond to control programs such as those used for brucellosis and tuberculosis. In addition, several of the suggestions have enormous costs associated with them and have questionable impact on food safety.

The food supply system in Canada is safe and it has served Canada well for many years. Current efforts are focused on making the system better and addressing some of the issues that a pure food inspection system can not address. This is the role for HACCP-based food safety systems. It will also enhance our ability to increase our exports to foreign countries.