Development and implementation of an HACCP-based on farm quality assurance program for swine in Canada.

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Abstract

A generic HACCP model was developed for farrow to finish operation by a technical committee composed of veterinarians, agronomists, producers and technical advisors from the Canadian Food Inspection Agency and Health Canada. Good production practices were developed based on the hazards identified in the generic model. Following validation by experts and pilot projects, the end product, the CQA\textsuperscript{TM}, was launched in spring 1998 and is gradually implemented in the production since then.

Introduction

The control of microbial hazards in meat products requires the participation of every production steps, including on farm facilities, by a gate to the plate approach. Using this approach, some countries succeeded in reducing the percentage of pork products contaminated by \textit{Salmonella} (Neilsen et al.). The implementation of HACCP plan in abattoirs and transformation plants also stressed the importance of the microbial status of live animals as the major incoming in the slaughter process. It was shown that animals carrying \textit{Salmonella} are of greater hazards in regard with contamination of carcasses by \textit{Salmonella}. Given this, the Canadian Pork Council embarked in the development of a HACCP-based on farm quality assurance program to control microbial, as well as chemical and physical hazards.

Materials and Methods

Following the guidelines of the Food Safety Enhancement Program (FSEP) of the Canadian Food Inspection Agency (CFIA), a technical group composed of veterinarians, agronomists, producers and technical advisors from the CFIA and Health Canada, revised all thecomings and the production steps in a farrow to finish operation to detect the possible contamination by the various types of hazards. Every identified potential hazards introduction was then controlled by either prerequisite programs or by Critical control Points (CCPs), based on the analysis by a decision tree for the assessment of the various hazards and the identification of CCPs provided by the FSEP.

Following the development of the generic HACCP plan, the model was reviewed by many experts through out the country. Based on their advices, the resulting HACCP model was adapted into good production practices to get it affordable for every producers. Prerequisites and the HACCP plan were put together and every significant hazard is covered under one of the 37 questions of assessment form. The final version of the document, the producer manual includes the assessment form (once filled, including the records, it become the HACCP-based QA program of the farm) and all the background information, including appendix such as dosage of medications, needed to fully understand the program.

Results

The program structure is described in Figure 1. The end product the CQA\textsuperscript{TM}, was launched in 1998, and is gradually implemented in the different provinces since then. In provinces such as Ontario and Manitoba most of producers are now registered. It is expected that the majority of the Canadian swine production will be covered by this program within 1 year.

To be accredited under the program, a producer must register first, complete the questionnaire, apply the good practices for 3 months. Following this, a trained validator must review the content of the questionnaire and the records. He must also verify, through a farm visit, that the good practices are indeed apply in the barn. Following recommendation of the validators, the provincial delivery agency will send to the producer its certificate. Every year, a partial validation must be done, and if nothing wrong is noted, a full validation is required every 3 years.

Validators must in turn follow a 8 hrs course and successfully pass a test. They will be submitted to audit under the ISO 10 011 guidelines by a third party to ensure validations are properly conducted.
Discussion

Given the rigorous approach taken to develop its model, the CCP is confident that its application will provide the highest standards currently achievable in swine production. However, through its permanent revision by the national advisory committee, the CQA™ will be in constant evolution to ensure adaptation to new knowledge concerning the on-farm control of hazards.

In addition to this program, the CCP also provide a technical support to Canadian producers to detect herds that are significantly contaminated, through a serological sampling (6000/Y) at slaughterhouses. Professional advising and on site sampling to detect source of contamination is offered to these producers to achieve a better control of Salmonella in Canadian swine production facilities.

References


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Figure 1. Program structure of the CQA™.