

MEETING REPORT

1. Introduction

1.1 Background

Salmonellosis and campylobacteriosis are among the most frequently reported foodborne diseases worldwide. While numerous potential vehicles of transmission exist, commercial chicken meat has been identified as one of the most important food vehicles for these organisms. In the light of their importance, FAO and WHO have already undertaken risk assessments on *Salmonella* and *Campylobacter* in broiler chickens (FAO, 2003; FAO/WHO, 2002; FAO/WHO, 2009). At the time of their completion, these risk assessments provided both an overview of the available knowledge on these organisms and a risk assessment framework to facilitate the evaluation of various interventions to address the risks associated with these pathogens in broiler chicken meat at the point of consumption.

Although specific data on the burden of foodborne disease associated with *Salmonella* and *Campylobacter* in poultry is limited, it is considered to be significant; however, the risk varies according to control measures and practices implemented along the chain from primary production to final preparation for consumption. Furthermore, the presence of these organisms in poultry is also affecting trade, and recently the detection of *Salmonella* in poultry products led to rejection of large consignments of raw poultry meat. While the scientific basis for such actions is not always clear, the economic impacts can be extensive. Thus the impact on human health and the associated costs, the trade disruptions and the cost of implementing effective control measures has meant that the Codex Alimentarius Commission (CAC) in 2007 agreed that the development of guidelines for the control of *Salmonella* and *Campylobacter* in poultry was a priority. Later that year, at its 39th Session, the Codex Committee on Food Hygiene (CCFH) agreed on the approach to be taken in the development of the draft guidelines. Essentially the guidelines are to consist of three sections: one that addresses good hygiene practices (GHP); one that addresses hazard-based control measures; and a third that focuses on risk-based control measures. In the past year much work has been undertaken to address the first section, and this is nearing completion. Work has also begun on the hazard-based control measures; however, the availability of data on the practical implementation of such measures has implications for this section of the guidelines. The third section of the guidelines is envisaged to be used in conjunction with a user friendly Web-based risk-management decision-support tool, to be developed by the Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA), which will allow the risk manager to input data specific to their production and processing system and thereby evaluate measures that might be most effective for risk reduction in those particular conditions.

In order to continue with their work and ensure that it is underpinned with the most robust scientific data, the 40th Session of CCFH requested FAO and WHO to provide them with the necessary scientific advice. In response to that request, FAO and WHO convened an ad hoc Technical Meeting from 4 to 8 May 2009, in Rome, Italy.

1.2 Scope

The scope of the work to be undertaken by FAO and WHO, through the Technical Meeting, was defined by the series of issues that CCFH asked both organizations to address, as listed below.

- To carry out an independent assessment and review of available scientific information on control of *Campylobacter* and *Salmonella* at relevant steps through the broiler chain.

- To evaluate quantitative aspects of hazard reductions in terms of prevalence and concentration following specific interventions.
- To evaluate likely outcomes in terms of hazard reductions in the commercial setting.
- To assess the feasibility of developing a Web-based risk-management decision-support tool.
- To develop a framework and identify data needs that might be required for the Web-based risk-management decision-support tool to be developed by JEMRA.

This Meeting report summarizes the results of the Joint FAO/WHO Technical Meeting on *Salmonella* and *Campylobacter* in Chicken Meat, held at FAO, Rome, from 4 to 8 May 2009, noting the data sources used and drawing out the main conclusions. In response to the questions posed by CCFH to FAO and WHO, a number of recommendations were made. Special attention was drawn to areas where further research and data collection were required for extending the Web-based risk assessment tool to be more comprehensive and reliable.

1.3 Data sources and objectives

The objective of the meeting was to make an independent assessment of the measures internationally available for the control of *Campylobacter* and *Salmonella* spp. in chicken meat, based on scientific information on the control of these microorganisms at different steps of the broiler production chain. The assessment included the review of quantitative aspects of hazard reduction in terms of prevalence and concentration in the commercial setting, and the assessment of the feasibility of developing a Web-based risk-management support tool that could assist managers in the evaluation of measures that might be most effective for risk reduction in their production and processing systems.

FAO/WHO initiated this assessment through the implementation of an extensive literature search and by issuing a call for relevant data using various routes, with 24 replies received from different countries in response. Data and information was submitted by national authorities and non-governmental organizations, including academic institutions and poultry production groups. Additionally, data used during this meeting were collected through the review made by the CCFH Working Group as part of the work carried out for the preparation of the Proposed Draft Guidelines for the Control of *Campylobacter* and *Salmonella* spp. in chicken meat. Furthermore, specific experts attending the meeting were asked to prepare a short background paper describing regional differences in chicken meat production, with special emphasis on detection and control of *Salmonella* and *Campylobacter*.

For the Technical meeting to address the request made by CCFH, the Good Hygiene Practices (GHP) and hazard reduction measures mentioned in the Draft Guidelines provided by the CCFH Working Group were used as a starting point, with the Experts assessing different interventions at specific steps in the processing chain. The measures mentioned in the guideline were assessed from the perspective of their scientific basis. Thereafter, appropriate additional intervention measures were assessed. Special emphasis was laid on the presence of quantitative data, which were considered when assessing the feasibility of the Web-based decision tool (See Chapter 6).