APPLICATION OF HACCP PRINCIPLES FOR THE MEAT INDUSTRY

GUIDANCE SHEET NO: 1

FOOD SAFETY MANAGEMENT IS ESSENTIAL FOR MEAT & MEAT PRODUCTS

MEAT AND MEAT PRODUCTS ARE HIGH-RISK MATERIALS

The development and implementation of a modern food safety management system is an added cost for food business operators in terms of time, effort and capital investments. For meat and meat products the question must be asked as to how much of a food safety risk they represent?

To gain an objective understanding of the level of food safety risks requires public and private sector agencies to collect and analyse large amounts of data on food safety incidents and outbreaks of foodborne disease. This type of data is often unavailable in may countries as they lack the resources to gather the data effectively. However, the European Union (EU) has put in place a framework for such data collection and agencies to analyse the results such as the European Centre for Disease Control (ECDC). The ECDC publishes an annual "One Health" report which provides an insight into the level of food safety risks associated with meat and meat products. The data below was adapted from the EU One Health Report for 2020 (containing data for 2019).

In 2019 there were 5,175 outbreaks of foodborne disease reported in the EU. Eighty nine percent of these outbreaks were associated with consumption of products of animal origin. Meat and meat products were associated with 26% (1,368) outbreaks of the EU foodborne disease outbreaks in 2019. Products of non-animal origin were linked to 11% of outbreaks. The main areas of concern for meat are summarised in table 1 below.

Table 1. Outbreaks of foodborne disease associated with meat and meat products in the EU in 2019

Pathogen	No of Outbreaks	Number of Deaths
Salmonella sp	926	-
Campylobacter sp	319	-
ETEC (toxigenic E.coli)	42	1
Shigella sp	22	-
Listeria monocytogenes	21	31
Clostridium botulinum	7	1

Adapted from EU One Health Report 2020: EFSA Journal, **17**(12), 5926, 276pp.

The outbreaks of foodborne disease resulted in 60 deaths, consumption of meat and meat products was linked to 55% (33) of the deaths during 2019.

It is clear from these figures that meat and meat products are high-risk products requiring a high-level of food safety management controls to prevent food safety risks from causing harm to the consumer.

MEAT INDUSTRY CONCERNS

The main reasons for the meat industry to invest in modern risk-based food safety management systems are as follows:

- It is a public good to invest in protection of the health of the consumer;
- Protection of brand image from damage due to outbreaks of foodborne disease;
- Protection from loss of consumer confidence (trust) in the companies' products;
- Protection from financial costs associated with loss of sales income, product recall, destruction of contaminated product, changes to premises and equipment due to a foodborne disease outbreak;
- Loss of access to markets, especially export markets due to loss of confidence in the safety of the companies' products;
- Protection from possibility of prosecution due to failures in food safety management that resulted in serious consequences such as the death of consumers.

IMPLEMENTATION OF A MODERN RISK-BASED FOOD SAFETY MANAGEMENT SYSTEM

The Asian Development Bank (ADB) has supported the CAREC member states to develop a modern risk-based food safety management standard for food processing industries. The ADB support was provided under the KSTA9500 "Pilot Project to Adopt Modern Risk-based Food Safety Management and Inspection Systems". The development of the CAREC Safe Processing Standard and its supporting materials including the Advanced HACCP Course for Meat Industries was carried out in close collaboration with the Ministry of Health of the Government of Turkmenistan.

The CAREC Safe Processing Standard and Advanced HACCP Course were designed to meet the needs of all public and private sector agencies in CAREC Member States wishing to adopt a modern risk-based approach to food safety management.

The CAREC Safe Processing Standard provides the structure and management controls for a Hazard Analysis Critical Control Point (HACCP)-based food safety management system for food processing businesses. The standard includes the necessary management controls for good manufacturing practices, good hygienic practices, HACCP and quality management. The complete package consists of a standard with auto-scoring checklist, record-keeping templates, factsheets and training materials for public health authorities and food businesses.

The advanced training course on application of HACCP principles was developed with a focus on the meat industry as meat and meat products were recognised as having a high level of economic importance for all CAREC Member States and also representing the highest level of food safety risk requiring the maximum level of food safety management controls.

Although the course has a focus on meat, the general principles for HACCP are applicable for all food processing industries and following the course would be useful for food businesses in other sectors such as dairy, beverages and confectionary.

An outline of the recommended approach for developing and implementing a HACCP system in your food business is provided in Guidance Sheet 2.