Food and Agriculture Organization of the United Nations

World Health Organization

FAO/WHO Call for Data

Identification and Control of Microbiological Hazards Associated with Melons

Deadline: 1 May 2011

Background

Development of a new Codex standard

Following up on previous activities to develop commodity specific guidelines as annexes to the Codex Code of Hygienic Practice for Fresh Fruits and Vegetables, the 42nd session of the Codex Committee on Food Hygiene (CCFH) has proposed to undertake new work to address the specific problems associated with the control of microbiological hazards on melons. To facilitate this effort the CCFH requested FAO/WHO to issue a Call for Data and to evaluate the pathogen-specific hazards associated with various types of melons and the role of various agricultural and manufacturing practices in enhancing or mitigating these hazards. Such an evaluation should also take into consideration how these products are marketed and handled by consumers and the impact of this on foodborne illnesses.

Melons and link to foodborne illness

In 2007, and again in 2009, FAO/WHO reviewed the available data to prioritise the commodities within the fresh fruit and vegetable sector which present the greatest concern for public health from a microbiological safety perspective. Leafy vegetables and herbs were identified as the highest priority on both occasions and specific Codex guidelines to address the microbiological hazards associated with this commodity group were developed and adopted by the Codex Alimentarius Commission in 2010. The second level of priorities included melons, berries and tomatoes. Melons continue to be linked with outbreaks of foodborne disease in a number of regions around the world. Production is widespread, which facilitates year-round availability. Over 100 million tonnes of watermelon and 27 million tonnes[1] of other melons are produced annually with an export value of approximatelyUS$1100 and US$1400 million respectively in 2008[2]. Cantaloupe melons, honeydew melons and watermelons have been implicated in foodborne disease, with *Salmonella enterica* most often identified as the causative agent. However, enterohaemorrhagic *Escherichia coli* and norovirus have also been identified as the causative agent in outbreaks linked to melons.

Guidelines to assist in the control of these hazards have been developed by some national and regional authorities and extensionists, often specifically tailored to the production areas of interest. The development of a code of practice at the international level needs to take into consideration the variety of melons that are produced worldwide, the range of hazards, the production and post-

[1] FAOSTAT, 2011 http://faostat.fao.org/site/567/DesktopDefault.aspx?PageID=567#ancor Accessed on 7 Feb 2011
[2] FAOSTAT, 2011 http://faostat.fao.org/site/535/DesktopDefault.aspx?PageID=535#ancor Accessed on 7 Feb 2011

harvesting practices that are employed, conditions of distribution and retail sale and how the melons are ultimately used and consumed.

Call for data

The purpose of this Call for Data is to collect data and information from as many sources as possible to get an overview of the current extent of the problem, the various production and post-harvest practices around the world and to evaluate the potential risks/benefits associated with these practices. Details of the specific types of information which are being sought are outlined below.

1. *Foodborne illness linked to melons*

   a. Details of any outbreaks of foodborne illness related melons in the last 10 years indicating to the extent possible:

      i) the date

      ii) the implicated pathogen

      iii) the implicated variety of melon, including origin, details of production, processing, distribution, storage (e.g. was it refrigerated, subject to value-added processing, special packaging such as MAP, etc.) and use (e.g. where and how it was made available for consumption), where available, and, if determined, the source of contamination of the commodity

      iv) number of people affected, including any information on special population groups affected

      v) follow-up actions taken to stop the outbreak and /or prevent new outbreaks of this type

      vi) details of any reports or references describing the outbreak and related investigations (published or unpublished)

   b. Whether your country has an operational foodborne disease surveillance system in place that has been successful in or is capable of identifying cases of foodborne illness related to melons. If not, is there any system in place that would facilitate the detection of foodborne disease linked to melons?

2. *Production practices*

   a. Description of typical melon production practices, including information on typical growing sites (urban; rural; proximity to animal production systems, wildlife, floodplains, raw sewage, sewage control systems, etc.), soil/substrate type, irrigation systems and water sources, fertilizer use and application (inorganic, organic derived from human, animal waste), whether melons are in direct contact with growing substrate, irrigation water and treatments, if any, specific to irrigation water, sanitary facilities and worker hygiene, level of handling during growing e.g. turning the melons to get even sun exposure or to avoid ground spot, etc.

   b. Details of any monitoring for microbial hazards of the inputs to production or the crop itself, including where possible a description of the system, the hazards it includes and the information generated by the system.

   c. Any information on the linkages between the production practices and contamination of melon with pathogenic microorganisms, e.g. field studies that could contribute to the understanding of how different production systems could affect the occurrence and survival of pathogenic microorganisms.

   d. Details of any guidance provided to growers on best production practices and/or measures implemented to minimize microbial hazards.

e. Details of the varieties of melons grown and any differences in practices according to the variety of melon grown.

3. *Harvesting practices*
   a. Details of how the melons are harvested, culling practices during harvesting, whether they are packed immediately (and if so, how) or transported to a packing shed, type of transport system.
   b. Details on typical harvesters, whether they are migrant workers, seasonal employees or more long-term farm employees. Are harvesters' family members (e.g. small children) often present during harvest? Are any hand washing or toilet facilities available for harvesters?

4. *Post-harvest practices*
   a. Design of packing and post-harvest facilities.
   b. Whether melons are washed, cooled and, if so, how this is done; water use and quality of that water; any other treatments which are applied (e.g. fungicides); packing details; use of refrigerated storage; any other practices employed at this stage.
   c. Any measures taken to reduce microbiological hazards, such as the use of disinfection treatments, and impact of these measures.
   d. Worker hygiene.
   e. Details and outputs of any system for detection of microbial hazards at this stage.

5. *Processing*
   a. Whether the melons are subject to any further processing to add value such as slicing, peeling, dicing, bagging etc.; how this is undertaken, details of measures to minimise microbial contamination, packing and storage conditions.

6. *Distribution*
   a. Length of distribution chain.
   b. Volume of melons entering the domestic market vs. the export market and any differences in the melons supplied to these different markets.

7. *Retail and Consumer use*
   a. State in which the melons are sold.
   b. Details of any value-added processing undertaken at the retail level.
   c. Details of any guidance provided to retailers and/or consumers.

8. *Documentation and product tracing*
   a. Extent to which the production and post-harvest steps are documented.
   b. Whether or not any system for product tracing exists and, if so, how far back in the chain it extends.

Overall, from the experience in your country, have data shown which points in the food chain are weakest in terms of entry of pathogens or are certain practices/activities more high risk than others?

IMPORTANT: When possible, please provide relevant guidelines/documentation/publications which describe the information available on the above issues. If providing quantitative data, please also include information on the sampling plan and methodology used if possible.

Who should provide data?

FAO/WHO calls for data are open to all interested parties. FAO and WHO are requesting governments, interested organizations, producers, exporters, retailers, trade associations, health care providers, academia, laboratories and individuals to submit any available data on the specific

areas indicated above. These data may be published or unpublished. Reference should be made to related published studies, where applicable.

Confidential and/or unpublished risk assessment

FAO and WHO recognize that some of the information and relevant data which is now required may be unpublished or of a confidential nature. With regard to unpublished information and data, this remains the property of the author for subsequent publication by the owner as original material. Unpublished confidential studies that are submitted will be safeguarded in so far as it is possible to do so without compromising the work of FAO and WHO. Specific issues relating to confidentiality should be discussed directly between the information and data owners and FAO/WHO. For these and other issues please contact FAO and WHO at the contacts provided below.

Deadline: Please submit any relevant information (electronic and / or hard copies) to the following addresses, not later than 1 May 2011:

Contact Information:

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