



Egyptian Journal of Animal Health

P-ISSN: 2735-4938 On Line-ISSN: 2735-4946
Journal homepage: <https://ejah.journals.ekb.eg/>

Article Review

Applying critical control points and hazard analysis to the dairy collection center

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Received in 2/10/2024
Received in revised form
19/11/2024
Accepted in 9/12/2024

Keywords:

HACCP
Hazard Analysis
Milk.

ABSTRACT

HACCP, or Hazard Analysis and Critical Control Point is a popular business procedure that effectively ensures the safety of food. HACCP is an organized approach to detecting, assessing, and managing hazards throughout the food chain. All chemical, physical, and microbiological risks must be taken into account for HACCP to be effective. Both the general environment surrounding the dairy collecting facilities and the quality of the milk and dairy products themselves improved, according to an assessment of the hygienic quality of milk and dairy products conducted before and after HACCP compliance.

If upper management and the food safety team are dedicated to the HACCP principle, then workers at the dairy collection center will be trained on the significance of creating safe food. This is required for a HACCP plan to be implemented effectively. It has become widely accepted that using it to reduce the likelihood of microbiological hazards is the most efficient approach to treat food-borne illnesses.

Presently, it is critical to implement the HACCP system's regulations in dairy collection centers. This will enhance the safety and quality of milk that is distributed to consumers and dairy factories alike, thereby mitigating the financial losses the latter may incur from the former's high initial bacterial load, a decline in the milk's chemical quality due to adulteration in its constituent parts, or the presence of antibiotic residues, which may pose numerous manufacturing challenges for certain products, like yogurt. However, the plant can compete in international markets by producing high-quality dairy products thanks to HACCP implementation, which also makes it possible for producers to export their goods abroad by achieving ISO 22000 accreditation for Food Safety Management Systems (FSMS) Certificate.

INTRODUCTION

Milk is the most enriched food because it contains many nutrients that support growth including protein, fat, carbohydrates, vitamins and minerals (Sharabi et al. 2018). Two

important animal-related sources of contamination in milk are subclinical or clinical mastitis and presence of fecal or dirty residues on the skin surface of the udder (Ürkek et al. 2017).

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DOI: 10.21608/ejah.2025.399731

Food is essential to human existence. In term of food quality, The two most crucial attributes are safety and holiness. When meal manufactured in an unsafe manner is consumed, it can cause harm, disease, or even death in certain cases due to the existence of food-borne illnesses (**Kitindi, 2012**).

Most dairy products are very safe when processed under well regulated circumstances, especially when it comes to the main microbiological hazards. Pasteurization has proven to be a generally successful method of controlling food-borne illnesses and classical zoonosis. While physical hazards are primarily related to the state of milking techniques, collecting, and packaging, chemical concerns are typically taken into account by raw material suppliers. The dairy sector employs a range of processes, such as heating, drying, chilling, freezing, curing, and fermenting, but all production lines can benefit from the HACCP idea. The WHO text serves as background information for a few remarks that are industry-specific (**Van Schothorst and Kleiss, 1994**).

The relevance of quality assurance is rising in the primary livestock production sector. Consumers are having an increasing impact on how animal products are produced and their types which reflect and express the consumer requirements and satisfaction. In animal husbandry, as in other industrialized fields, "quality" can apply to the ultimate product, like milk, or the process of producing it, such feeding, collecting milk, or growing calves. Since many years ago, milk quality control has been conducted. Classical checkpoints include the quantity of butterfat and milk protein, the number of bacteria, the number of somatic cells, and the presence of antibiotic residues (**Noordhuizen et al. 2001**).

Quality management is becoming a higher priority for dairy farms in order to guarantee food safety. The monitoring of farm conditions, livestock, and records can be improved through risk identification and management. Use of the Hazard Analysis Critical Point System by farms can help regulate the product and the production process in the areas of food safety (**Lievaart, 2005**).

HACCP is a more economical, effective, and efficient method of managing hazards; yet, there are certain areas that still need to be explored and developed. These include the following: the need to improve the techniques used for finding and assessing the danger associated with chemical pollutants; the development of more economical methods for routinely monitoring and controlling food chemical pollutants, as well as improving the effectiveness of the process for achieving the best possible control over food chemical contaminants (**Ropkins et al. 2010**).

Throughout the entire food chain, HACCP should be used from planting, processing, marketing, handling to getting food ready for eating. The creation and implementation of an effective HACCP plan are said to depend on prerequisite programs (PRPs) and numerous other programs such as good hygienic practices (GHPs) and manufacturing practices (GMPs). Food service establishments, retail food stores, and food processing facilities have all had success putting HACCP-based food safety systems into place. The international food industry, trade associations, and governments all broadly endorse the seven HACCP principles (**U.S. Food and Drug Administration, 2017**).

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