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**Faculty of Veterinary Medicine**

**Department of Food Hygiene and Control**

# **Improvement of Food Safety of Some Poultry Processed Products**

A thesis Presented by

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**Hygiene and Control of Meat and its Products**

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## **Abstract**

**Key words:** Food safety management system, ISO 22000, HACCP, Verification, validation, internal audit, FSMS, PRPs, OPRPs, CCPs, documentation, supplier management.

This study was conducted in chicken panee processing line in Kalyobia governorate in Egypt for verification of control measures used through food safety management system to control food safety hazards and auditing of all applied requirements.. Firstly, the processing line was audited to check its conformance to the requirements of ISO 22000 (documentation, management commitment, human resources management, PRPs, HACCP, verification). The audit discovered some non-conformities against requirements of documentations, human resources management, suppliers control, cleaning, GMP, preventive maintenance and pest control. The audit discovered some points of strength as efficiency of traceability and recall due to application of computer software programs as ORACLE. To prevent those non-conformities, corrective actions were applied as planned internal audits to discover any non-conformity, prevention of supply of raw materials except from approved suppliers, prevention of using any outsource untrained worker, planned preventive maintenance, GMP and GHP. The mean APC, coliforms, enterobacteriaceae, staphylococcal counts of examined worker's hands samples per hand in final product area were  $7.08 \times 10^2$ ,  $<10$ ,  $<10$ ,  $<10$  respectively before application of corrective actions and became  $1.44 \times 10^2$ ,  $<10$ ,  $<10$ ,  $<10$  respectively after application of corrective actions. Other example, the mean APC, coliforms, enterobacteriaceae, staphylococcal counts of examined chicken fillet raw materials were  $3.3 \times 10^4$ ,  $1.12 \times 10^2$ ,  $4.52 \times 10^2$ ,  $<100$  respectively before application of corrective actions and became  $8.04 \times 10^3$ , 20, 40,  $<100$  respectively after application of corrective action. Other example, the mean APC, coliforms, enterobacteriaceae, staphylococcal counts of examined chicken fillet bins were  $2.96 \times 10^3$ , 4, 10,  $<10$  before application of corrective action and became  $6.17 \times 10^2$ ,  $<10$ ,  $<10$ ,  $<10$  after application of corrective action. Finally, the mean APC, coliforms, enterobacteriaceae, staphylococcal counts of examined chicken panee final product were  $4.84 \times 10^3$ ,  $<10^2$ ,  $<10^2$ ,  $<10^2$  respectively before application of corrective actions and became  $<9.1 \times 10^2$ ,  $<10^2$ ,  $<10^2$ ,  $<10^2$  respectively after application of corrective actions. The study proved the efficiency of application of ISO 22000 in controlling of food safety hazards if it followed by continues verification to ensure continues conformance of the food establishment to the food management system.





## ***DEDICATED TO***

***My parents who spend their live to build  
me, I ask my God to forgive them***

***My sisters and my relatives who encourage  
me and***

***My friends who give me the hopeful, advice  
and encouragement***



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