Cairo University
Faculty of Veterinary Medicine
Department of Food Hygiene and Control

QUALITY OF LEFTOVER COOKED BROILER'S MEAT

Thesis presented by

Gehad Abdelbaky Ezzat Mohamed
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Hygiene and Control of Meat and its Products

Under the supervision of

Dr. Nada K.M. Mansour

Professor of Meat Hygiene
Faculty of Veterinary Medicine
Cairo University

Dr. Nabil A.Yassien

Professor of Meat Hygiene &Head of Food Hygiene and Control Department
Faculty of Veterinary Medicine
Cairo University

Dr. Hussein M. Hussein

Assistant Professor of Meat Hygiene
Faculty of Veterinary Medicine
Cairo University

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Cairo University
Faculty of Veterinary Medicine
Department of Food Hygiene and Control

Supervision Sheet

Dr. Nada K.M. Mansour
Professor of Meat Hygiene and Control
Faculty of Veterinary Medicine
Cairo University

Dr. Nabil A.Yassien

Professor of Meat Hygiene &Head of
Food Hygiene and Control Department
Faculty of Veterinary Medicine
Cairo University

Dr. Hussein M.Hussein

Assistant Professor of Meat Hygiene
Faculty of Veterinary Medicine
Cairo University

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Faculty of Veterinary Medicine
Department of Food Hygiene and Control

Name: Gehad Abdelbaky Ezzat Mohamed
Date of birth: 19/7/1986
Degree: M.V.Sc Veterinary Science
Nationality: Egyptian
Specialization: Hygiene and Control of Meat and its Products
Title of the thesis: Quality of leftover cooked poultry meat
Supervision:

***Dr. Nada K.M. Mansour*:** Professor of Meat Hygiene and control, Faculty of Veterinary Medicine, Cairo University

Dr. Nabil A. Yassien: Professor of Meat Hygiene and control and head of food hygiene and control department Faculty of Veterinary Medicine, Cairo University

***Dr. Hussein M. Hussein*:** Assistant Professor of Meat Hygiene and control, Faculty of Veterinary Medicine, Cairo University

Abstract: (**Key words:** Leftovers, cooked poultry, sensory analysis, deterioration criteria bacteriological quality)

Leftover foods are cooked foods that were not consumed within 4 hours after cooking or cooked foods that may be consumed after they have been stored in the refrigerator or freezer. These leftovers should be utilized carefully as it may harbor and support growth of food borne pathogens and causing food borne outbreaks. In part 1 of this study a survey on the quality of leftovers in student hostels was performed by collection of 25 samples of leftovers cooked chicken cuts (14 chicken thigh and 11chicken breast) from the central kitchen of the student hostel of Cairo University in Giza in order to investigate their sensory, chemical and bacteriological quality. The obtained results revealed that the mean values of APC, total Staphylococcal count, total coliform count, Pseudomonas & Aeromonus counts, Psychrotrophic count were 2.39±0.38, 2.07±0.17, 3.29±1.07, 1.88±0.45, 2.12±0.27 log cfu/g for the cooked leftover chicken thigh, respectively and 2.53±0.49, 2.31±0.35, 3.73±1.67, 2.27±0.33, 2.3042 log cfu/g for frozen cooked leftovers chicken breast, respectively. *Salmonellae* and *Escherichia coli* were not isolated from any of the examined samples. The majority of the investigated leftovers cooked chicken samples from the University student hostel revealed microbial loads within the standard acceptable levels, however, the sensory scores showed slightly lower scores for flavor. In part 2, the effect of refrigerated storage at 4ºC and frozen storage at -18ºC on the sensory quality, bacteriological and the deterioration criteria were studies under controlled conditions of cooking and storage. The results revealed that the cooked poultry cuts under refrigerated storage were remained within the acceptable levels of bacteriological and sensory scores until the 14th day of storage at 4ºC. After this time the sensory scores decreased lower than the acceptable level but without development of off-odor until the 21st day of storage with higher values for deterioration criteria (pH, TBA. The bacteriological quality of frozen cooked chicken cuts were within the acceptable counts until the 12th week of storage, however, the sensory attributes remained with the acceptable scores (3.5) until the 8th week only. Therefore, the shelf life of frozen cooked chicken cuts should not exceed 8 weeks under controlled freezing conditions at -18 ºC.

Dedication

To my husband and my sons ABDULLAH AND OMAR

To my father and my Mother

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