



شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



شبكة المعلومات الجامعية
@ ASUNET



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of
15-25- c and relative humidity 20-40%

بعض الوثائق الأصلية تالفة

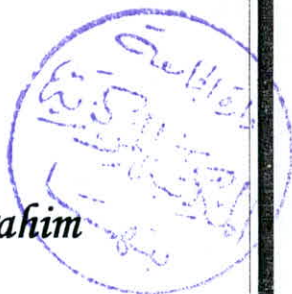
بالرسالة صفحات لم ترد بالاصل

SOME STUDIES ON HALLOUMI CHEESE

By

Amal Mohammad Sadik Ibrahim

B. Sc. Agric. Sci., (Food Sci.), 1996
Fac. Agric., Moshtohor,
Zagazig Univ., Benha Branch



B7051

THESIS

*Submitted in Partial Fulfillment of the Requirements
for*

**The Degree
of
Master of Science
in
Dairy Science**

Food Science Department
Faculty of Agriculture, Moshtohor
Zagazig University
(Benha Branch)

2002

APPROVAL SHEET

SOME STUDIES ON HALLOUMI CHEESE

By

Amal Mohammad Sadik Ibrahim

B. Sc. Agric. Sci., (Food Sci.), 1996

*Fac. Agric., Moshtohor,
Zagazig Univ., Benha Branch*

This Thesis for the M. Sc. Degree has been approved by:

Prof. Dr. Seham Ibrahim Farag

Professor and Head of Dairy Sci. Dept.,
Faculty of Agriculture,
Menofia University

Seham E.F.

Prof. Dr. Sania M. Abdou

Professor of Dairy Science,
Faculty of Agriculture, Moshtohor,
Zagazig University
Benha Branch

Sania Abdou

Prof. Dr. Mohamed B. El-Alfy

Professor of Dairy Science, Vice Dean of
Faculty of Agriculture, Moshtohor,
Zagazig University

M.B. El-Alfy

Prof. Dr. Sharawy G. Osman

Prof. of Dairy Science,
Food Technology Research Institute,
Agricultural Research center

Sharawy G. Osman

(Committee in charge)

Date : Sun. 17/ 3 /2002

Supervision Committee

SOME STUDIES ON HALLOUMI CHEESE

By

Amal Mohammad Sadik Ibrahim

B. Sc. Agric. Sci., (Food Sci.), 1996

*Fac. Agric., Moshtohor,
Zagazig Univ., Benha Branch*

Prof. Dr. Sania Mahmoud Abdou

Professor of Dairy Science,
Faculty of Agriculture, Moshtohor,
Zagazig University
Benha Branch

Dr. Mohamed Eid Shenana

Lecturer of Dairy Science,
Faculty of Agriculture, Moshtohor,
Zagazig University
Benha Branch

Prof. Dr. Sharawy Gamal Othman

Professor of Dairy Science, Food Technology Research Institute,
Agricultural Research Center, ARC
Giza

CONTENTS

	Page
INTRODUCTION	1
REVIEW OF LITERATURE	3
I- Halloumi cheese making and quality	3
II- Chemical composition of Halloumi cheese	6
III- Microbiology of Halloumi cheese	9
IV- Fat substitutes or replacers and its use in making low-fat cheeses	13
a- Fat substitutes	13
b- Use of fat substitutes in making low-fat cheeses.....	19
MATERIAL AND METHODS	27
Materials.....	27
Methods	28
I- Manufacture of Halloumi cheese	28
II- Chemical analysis	29
Determination of fat content	29
Determination of moisture content	29
Determination of ash content	29
Determination of sodium chloride content	29
Determination of total nitrogen content	29
Determination of soluble nitrogen content	29
Determination of titratable acidity content	29
Determination of pH value	30
III- Microbiological analysis	30
Total viable count	30
Yeasts and moulds	30
Coliform	30
IV- Cheese firmness	30
V- Calculation of loss and recovery of cheese milk constituents	31
VI- Statistical analysis	31
PART I	32
Evaluation of Halloumi cheese available in the Egyptian market	32
Introduction	33
Experimental	33
Results and Discussion	34

PART II	56
Production of Halloumi cheese from different types of milk	56
Introduction	57
Experimental	57
Results and Discussion	58
 PART III	 94
Production of low-fat Halloumi cheese	94
Introduction	95
Experimental	95
Results and Discussion	96
 SUMMARY	 129
APPENDIXES	135
REFERENCES	137
ARABIC SUMMARY	

ACKNOWLEDGMENT

Firstly my unlimited thanks to “Allah”

The author wishes to express her deepest, most faithful gratitude for the kind attention, great help provided for the accomplishment of this work supervision, guidance and helpful suggestions of *Prof. Dr. Sania, M. Abdou*, Professor of Dairying and *Dr. M.E. Shenana*, Lecturer of Dairying at Food Science Department, Faculty of Agriculture, Moshtohor, Zagazig University.

Many thanks are also to *Prof. Dr. Sharawy G. Osman*, Head of Dairy Research Dept. F.T.R.I., Agric. Rec. Center, Giza, for his supervision of this work and providing different facilities.

I wish to thank *Prof. Dr. Nabeh Abd El-Hamid*, Director of Food Technology Research Institute, Agricultural Research Center, ARC, for his valuable advice and helpful guidance.

Acknowledgment is also extended to all members of Food Science Department, Faculty of Agriculture, Moshtohor, Zagazig University, and all members of Dairy Research, Food Technology Research Institute, Agricultural Research Center.

