



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

# 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%





# شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم

بالرسالة صفحات  
لم ترد بالأصل



بعض الوثائق  
الأصلية تالفه

# **STUDIES ON THE MANUFACTURE OF HALLOUMI CHEESE FROM BUFFALOES MILK**

**BY**

**REDA ABDEL-LATIF MOSTAFA SABEK**

B.Sc., Agric. Sci. (Dairy Science and Technology), Cairo Univ., 1969

M.Sc., Agric. Sci. (Dairy Science and Technology), Zagazig Univ., 1979

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**of**

**the requirements for the degree of  
Doctor of Philosophy**

**in**

**Agricultural Science  
(Dairy Science and Technology)**

**Food Science Department  
Faculty of Agriculture  
Ain Shams University.**

**2002**

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## Approval Sheet

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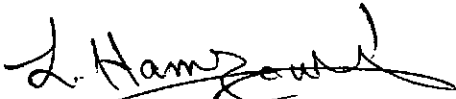
This thesis for Ph.D. degree has been approved by:

**Prof. Dr. Ebtesam I.E. Ghita**



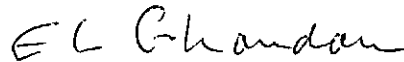
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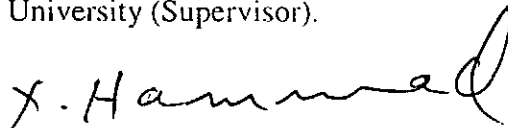
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Date of Examination : 9 / 6 / 2002





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## **ABSTRAT**

**Reda Abdel-Latif. Mostafa Sabek, Studies on the manufacture of Halloumi cheese from buffaloes milk. Unpublished Doctor of Philosophy dissertation, Department of Food Science, Faculty of Agriculture, Ain Shams University, 2002.**

Halloumi cheese was made traditionally from normal sheep's, cow's milk and compared with cheese from standardized buffalo's milk with 6%, 4.5%, 3% and 1.5% fat to obtain the best fat content which gives the highest quality with lower losses. Also, Halloumi cheese was made from standardized buffalo's milk with 4.5% fat and adjusting the pH value to 6.8, 6.7, 6.6, 6.5 and 6.4 and cooking the curd at 70°C, 75°C, 80°C, 85°C and 90°C to determine the required time for curd floating. Cheese characteristics and quality was assessed. The effect of homogenization and concentration by ultrafiltration on the properties and microstructure of Halloumi cheese was also studied. Results indicated that Halloumi cheese could be successfully made from buffalo milk with 4.5% fat and pH of 6.5 and cooking the curd to 90°C. These condition gave the highest quality and yield. Homogenization and ultrafiltration (4X) of buffalo milk enhanced the structure of the resultant Halloumi cheese by increasing the adsorption of casein micelles at fat – water interface, reducing the number of free micelles in water phase and reducing the density of gel structure. However, cow's milk 3% fat and buffalo's milk 4.5% fat were concentrated 4 folds by ultrafiltration, then, the effect of homogenization on the microstructure and Halloumi cheese quality was studied.

**Key words:** Halloumi cheese, Sheep, Cow, Buffalo, Ultrafiltration, Homogenization, Microstructure.



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