



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



شبكة المعلومات الجامعية
@ ASUNET



شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

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



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

B ٤٧٧٢

STUDIES ON ACCELERATING MANUFACTURE STEPS OF HARD CHEESE

BY

WAHEED IBRAHIM ABD EL - AZIZ NASR

B. Sc. Co- operative and Agricultural Sciences (1986)

High Institute of Agricultural Cooperation

Complementary studies of (Food Science 1995)

Faculty of Agric., Moshtohor

Zagazig Univ.

THESIS

Submitted in partial fulfilment
of the requirements for the Degree of
Master of Science

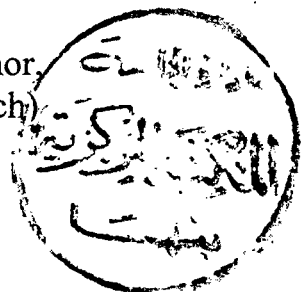
IN

Dairy Science

Food Science Department

Faculty of Agriculture – Moshtohor,
Zagazig University (Benha Branch)

2001





STUDIES ON ACCELERATING MANUFACTURE STEPS OF HARD CHEESE

BY

WAHEED IBRAHIM ABD EL - AZIZ NASR

B. Sc. Co- operative and Agricultural Sciences (1986)

High Institute of Agricultural Cooperation

Complementary studies of (Food Science 1995)

Faculty of Agric., Moshtohor

Zagazig Univ.

THESIS

Submitted in partial fulfilment
of the requirements for the Degree of
Master of Science

UNDER THE SUPERVISION OF:

Prof. Dr. Sania Mahmoud Abdou

Prof. of Dairying, Food Sci. Dept., Faculty of
Agric, Moshtohor Univ.

Prof. Dr. Mohamed B. El alfy

Prof. of Dairying and Vice Dean for post graduate Affair.
Food Sci. Dept., Faculty of
Agric, Moshtohor Univ.

Prof. Dr. A. A. Hefny

Prof. of Dairying, Dairy Tech. Res. Dept. Ani.
Prod. Res. Institute, Ministry of Agric., Giza, Egypt

APPROVAL SHEET

ZAGAZIG UNIVERSITY
FACULTY OF AGRICULTURE
MOSHTO HOR

Title: STUDIES ON ACCELERATING MANUFACTURE
STEPS OF HARD CHEESE

Name of Candidate: Waheed Ibrahim Abdel Aziz Nasr

Degree: M.Sc.

This thesis approved by:

Prof. Dr. Sanaa Al-dou

Prof. Dr. A. H. Dawood

Prof. Dr. A. A. Abdel Baky

Prof. Dr. M. B. Elally

Committee in charge

Date 3/ 9 / 2001



Title of thesis: Studies on accelerating manufacture steps of hard cheese.

Name of candidate: Waheed Ibrahim Abdel Aziz Nasr.

Abstract

With the growing demand for cheese, especially in countries where milk is available in small quantities, as in Egypt, it is of interesting to search for the most economical way of fulfilling this need. This justifies all the efforts could be done to development of our national hard type "Ras" cheese by accelerating manufacture steps and ripening, increasing yield and effective vat capacity to meet the growing consumer demands, particularly, via UF and recombination techniques, but after solving the expected technological problems arises on the use of concentrated milk, and in the meantime incorporating probiotic bacteria (*Bifidobacteria*) to produce "Ras" cheese retains the good quality and to be of therapeutic value.

The most important results showed that, the preferable trend was for UF – Ras cheese (CF4), made with using 0.02 % CaCl_2 and modified starter (heat – shocked yoghurt culture + *Bifidobacteria Bb* – 12). The cheese contained sufficient *Bifidobacteria* ($N \times 10^7$ cfu /g) to be beneficial as dietary adjuncts. A reduction of 48 % and 50 % in processing time and ripening period, respectively, was achieved compared to traditional procedure.

ACKNOWLEDGMENT

The first I would like to thank Allah for helping me to finish this work.

I have the pleasure in expressing my great indebtedness and sincere appreciation to my supervisor **Prof. Dr. Sania Abdou**, Food Sci. Dept., Fac. of Agric. Moshtohor, Zagazig Univ.; and **Prof. Dr. M. B. El- alfy** Food Sci. Dept., Fac. of Agric. Moshtohor, Zagazig Univ. and Vice Dean for post graduate Affair for their supervision, valuable guidance, constructive comments, helpful suggestions as well as facilities offered throughout the work and the final preparation of this thesis.

The author wishes to express his deepest thanks also to his supervisor **Prof. Dr. A. A. Hefny**, Dairy Tech. Res. Dept., Animal Production Research institute, Dokki, Giza for his great cooperation and for the preparation of the text.

Sincere thanks also are due to the staff members and colleagues of the dairy technology Research Department, Animal Production Research institute, Dokki, Giza for their kind help and for making laboratory facilities available.

The author also wishes to express his thanks and gratitude to **Mr. H. Jan Taaks**; **Mr. Ihab Abd- El Aziz** and the staff of Programme management unite (PMU), Food Sector Development Programme (FSDP) for their continuos helpful throughout the final preparation of this thesis.

