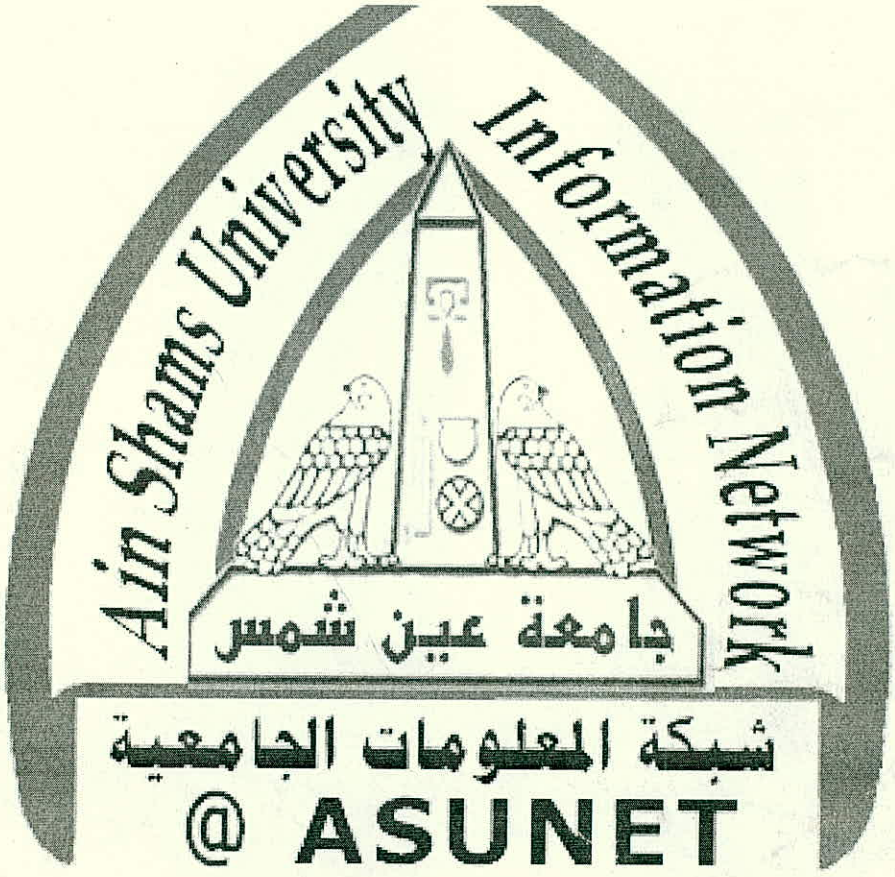
شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



شبكة المعلومـــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قسم ﴾

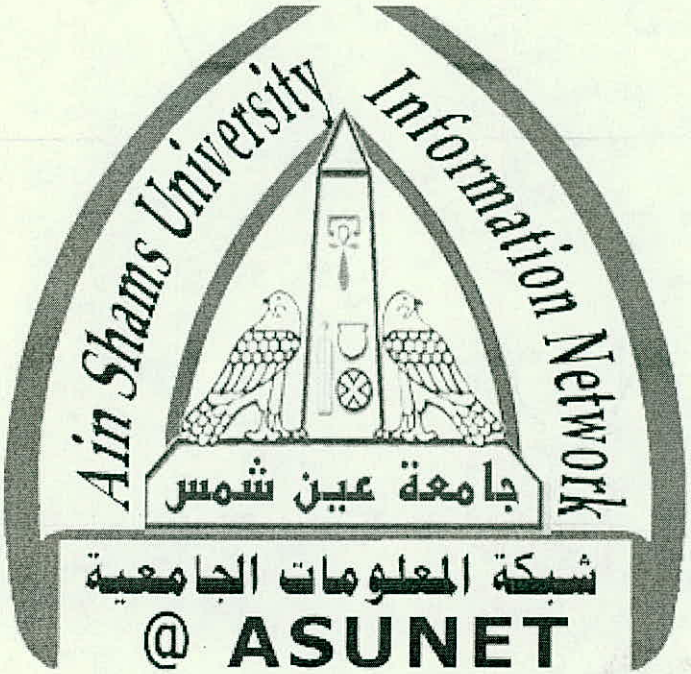
نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %



بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

STUDIES ON THE NUTRITIONAL VALUE OF LABNEH PRODUCED BY DIFFERENT PROCEDURES

BY

Mervat Sayed Hassan Youssef

B.Sc.Agric. (Dairy Sci. and Technology), Ain Shams University, 1979.
M.Sc. Agric. (Dairy Sci. and Technology), Ain Shams University, 1993.

A thesis submitted in partial fulfillment
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

2000

Approval sheet

STUDIES ON THE NUTRITIONAL VALUE OF LABNEH PRODUCED BY DIFFERENT PROCEDURES

BY

Mervat Sayed Hassan Youssef

B.Sc.Agric. (Dairy Sci. and Technology), Ain Shams University, 1979.
M.Sc. Agric. (Dairy Sci. and Technology), Ain Shams University, 1993.

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

Prof. Dr.M.M.A. Omar
Prof. of Dairy Science and Technology and Head of Food Science Department, Faculty of Agriculture, Zagazig University.

M.M. Omar

Prof. Dr. E.A. El-Shabrawy
Prof. of Dairy Sci. and Technology, Food Sci. Dept., Fac. Agric., Ain Shams University.

E.A.El-Shabrawy

Prof. Dr. G.A. Mahran
Prof. of Dairy Sci. and Technology, Food Sci. Dept., Fac. Agric., Ain Shams University.
(Supervisor)

G.A. Mahran

Date of Examination 23 /8/2000

STUDIES ON THE NUTRITIONAL VALUE OF LABNEH PRODUCED BY DIFFERENT PROCEDURES

BY

Mervat Sayed Hassan Youssef

B.Sc.Agric. (Dairy Sci. and Technology), Ain Shams University, 1979.
M.Sc. Agric. (Dairy Sci. and Technology), Ain Shams University, 1993.

Under the supervision of :

Prof. Dr. Gamal A. Mahran

Professor of Dairy Science and Technology, Food Sci. Dept., Faculty of Agriculture, Ain Shams University, Egypt.

Prof. Dr. Atef E. Fayed

Professor of Dairy Science and Technology, Food Sci. Dept., Faculty of Agriculture, Ain Shams University, Egypt.

Prof. Dr. Akila S. Hamza

Head of Central Laboratory for Food and Feed, Agriculture Research Center, Ministry of Agriculture.

ABSTRACT

Mervat Sayed Hassan Youssef. Studies on the nutritional value of Labneh produced by different procedures. Unpublished Doctor of Philosophy dissertation. Department of Food Science, Faculty of Agriculture, Ain Shams Universtiy, 2000.

The aim of this study was to investigate the dietetic aspects, besides the compositional, rheological and organoleptical characteristics of Labneh made from buffalo's milk as affected by the differences in the manufacturing procedure.

Labneh based on 26% total solids (TS) and 0.5% NaCl was conventionally made from fat standardized buffalo's milk (4.5% fat) or without whey drainage whether from ultrafiltrated retentate (UFR) alone or in combination with milk supplemented with whey powder (MSWP) at different ratios of UFR:MSWP being 6:0, 5:1, 4:2, 3:3 and 2:4. Labneh was made also from buffalo's milk supplemented with skimmilk powder (SMP) partially substituted with dried whey protein concentrate (DWPC) at the levels of nil, 20 and 40%.

The results indicated that, opposite to the lactose, the protein content of Labneh increased by adding UFR or DWPC and decreased by SMP or WP. The ash content was increased by UFR, SMP or WP and decreased by DWPC. The level of total essential amino acids increased by DWPC, while both of it and the protein efficiency ratios increased by WP. Levels of Ca, P, Zn and Mn was increased by SMP or UFR and decreased by DWPC or WP. The level of Mg was decreased by DWPC and increased by either UFR, SMP or WP. Vitamin A rised by UFR or DWPC and decreased by SMP or WP. While vitamins , E, B_1, B_2 were not influenced by DWPC, while they raised by UFR.

Caloric value was not affected by UFR or DWPC and decreased by SMP or WP. The true digestability, Biological value and net protein utilization determined in vivo was improved by DWPC at any level studied. The consistency coefficient and yield stress increased by SMP , UFR or DWPC and reduced by WP. However, apparent viscosity lowered by SMP or WP and increased by UFR or DWPC. Levels of titratable acidity (TA) acetaldehyde (AC) and diacetyl (DA) decreased by UFR or DWPC and increased by SMP or WP. Organoleptically, the overall Labneh quality was improved by UFR and DWPC and all samples remained acceptable at 5°C up to 21 days.

Thus, UF buffalo's milk retentate and whey protein concentrate offer several nutritional advantages in Labneh making.

Key words: Buffalo's milk retentate - Whey protein concentrate - Labneh making - Whey powder-skimmilk powder - Nutritional aspects of Labneh.

ACKNOWLEDGEMENT

I would like to express my thanks and gratitude to Prof. Dr. G.A. Mahran, and Prof. Dr. A.E. Fayed, Food Science Department, for their fruitful efforts during their suppervising all the stages of this investigation.

Deep gratitude is also extended to Prof. Dr. Akila S. Hamza, Head of Central Laboratory for Food and Feed, Ministry of Agriculture for her suppervision and kind guidance through out this work.

Thanks also should be sent to all colleagues at Ain Shams University and Central Lab. for Food and Feed for every help and facilities offered to make this work possible.