حسام مغربى

شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

حسام مغربى

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

حسام مغربى

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

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بالرسالة صفحات لم ترد بالأصل

STUDIES ON RAW MILK QUALITY IN KAFR EL-SHEIKH

A Thesis presented by

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Tanta Univ., (1996)

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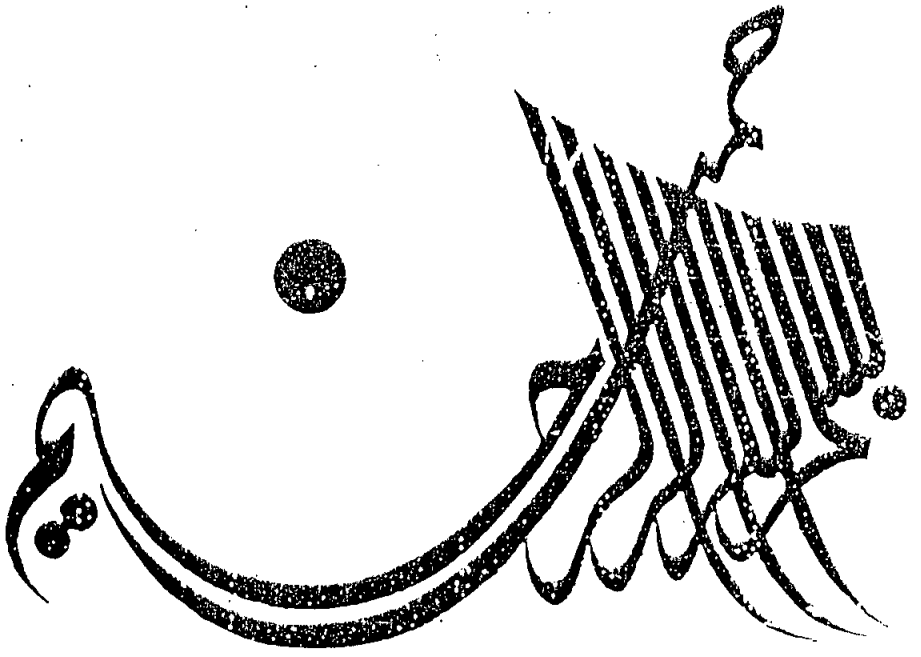

سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ

سورة البقرة
(٣٢ / البقرة)

Faculty of Veterinary Medicine
Department of Food Hygiene

APPROVAL SHEET

This is to approve that the dissertation presented by **Azza Mahmoud Kamel Hassanin Sobeih** to Tanta University for the degree of Ph.D. in Vet. Med. Sci. has approved by the examining committee.

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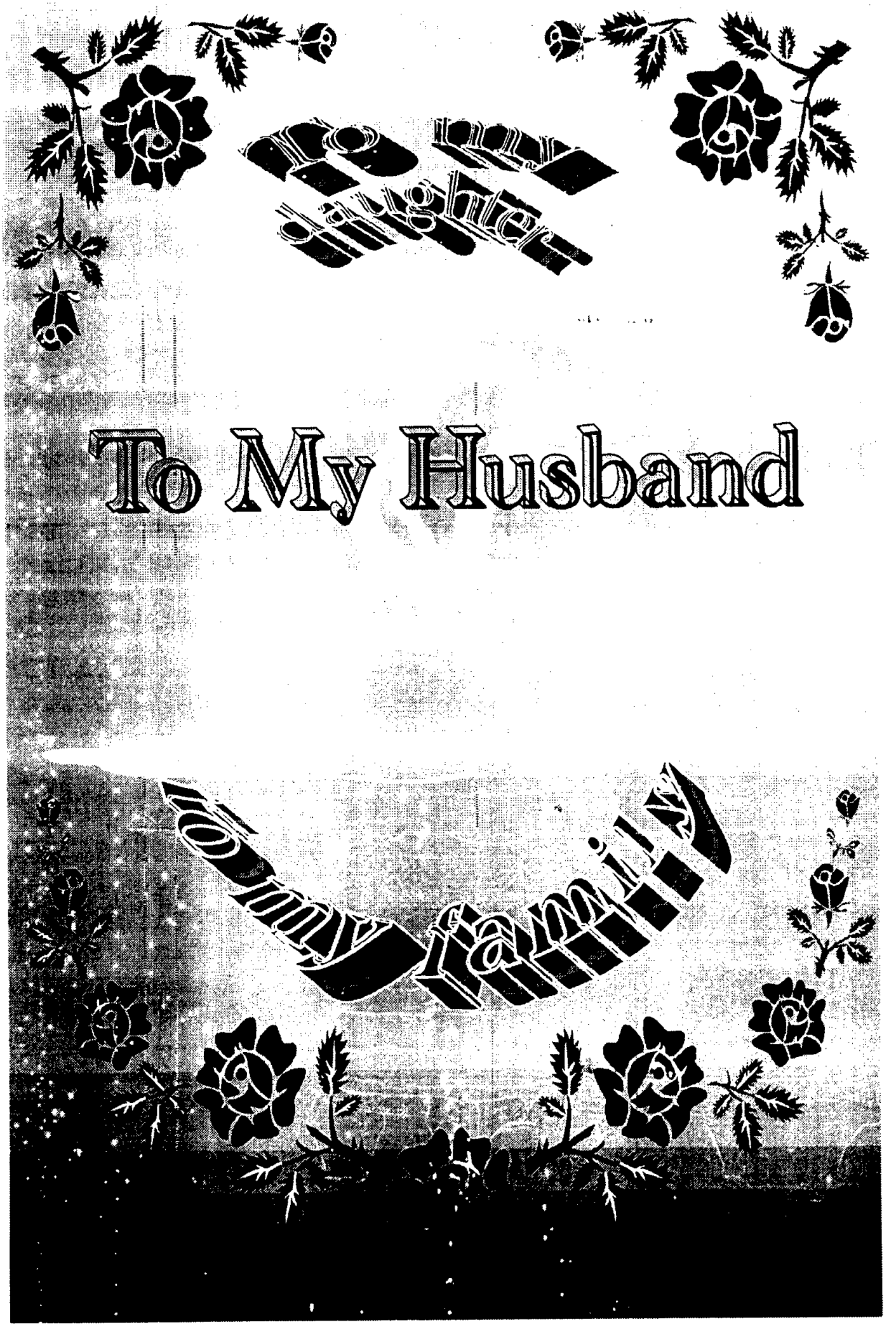
Slogan
To My Husband
To my family

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Contents

INTRODUCTION

Introduction

Fluid milk is a highly perishable commodity; it has a special importance as a component of the diets of both young children and old people. For these reasons, the quality of milk is of a great importance than the quality of most other foods. The milk quality is determined by aspects of composition and hygiene. The compositional quality is influenced by feeding, genetics, breed, while the hygienic parameters are decisive for food safety and might also influence the composition of milk.

The production of wholesome milk of good keeping quality is a matter, which depends largely on the dairy farmer and his staff, who must possess a sound knowledge about cleanliness.

The production of high quality milk is usually difficult to achieve in developing countries, where very high microbial levels in raw milk may be attributed to factors such as poor hygiene during milk handling, lack of cooling facilities at the farm, and high atmospheric temperatures during transportation (Van den Berg, 1988).

In Kafr El-Sheikh, the majority of the dairy farmers have less than 20 cows and have no cooling facilities at their farms. Milk is transported from the dairy farms to collection centers where a part of the bulk collected milk is sold fresh without heat treatment at the market, and the other part is sent to the processing plant at ambient temperature.

The possibility of multiplication of microorganisms in milk during transportation from farms to the collection centers that affect upon its quality can't be ignored. Moreover, intra- mammary infusions of several antibiotics are readily available to farmers and in the absence of monitoring program to ensure that the farmers observe the withholding period of these intra mammary infusions can constitute a public health risk as well as give rise to products faults (Harding, 1995).

In the USA (Barbano, 1992), European Union (IDF, 1996) and in Zimbabwe (Mutukumira et al. 1996) strict food safety legisiations for a good quality raw milk were placed. These legislations depend upon the Aerobic bacterial count (ABC), Somatic cell count (SCC), Coliform count (CC), Thermoduric count (TC), and Psychrotrophic count (PC). With financial incentives for dairy farms to produce good grade milk (Mabbitt, et al.1987).

The level of aerobic bacterial count (ABC) is usually used to assess the overall sanitation and storage condition of raw milk. Many countries set penalties at 200000 cfu/ml or even 100000cfu/ml (IDF, 1996 and Mutukumira et al. 1996). While the presence of large numbers of Coliform bacteria in milk generally provides an index of the hygienic standards used in the production of milk, as unclean udder and teat can contribute coliform from a variety of sources such as manure, soil, feed and water. (Richter et al. 1992).

Most Thermoduric organisms do not multiply appreciably in raw milk even at ambient temperature, and thus a high thermoduric count (>10,000/ml milk) is a reliable evidence of gross contamination from unclean milking equipment. For this reason, the thermoduric count has been proposed and used for hygienic quality control of raw milk (luck, 1972).

Psychrotrophic microorganisms can lead to a considerable breakdown of protein and lipid, provoking severe flavour defects. Numbers of about 106 cfu/ml or more are required before their metabolic effects become detectable by taste or smell (IDF, 1981/1982). Less than 10% of the total microbial flora are psychrotrophs when milk is produced under sanitary conditions while under unsanitary conditions of production, milk can contain more than 75% psychrotrophs (Suhren1989). According to Scottish supplies standard the initial psychrotrophs count in examined farm milk should not exceed 500 cfu/ml (Griffiths et al. 1988).

At present there are few studies on the quality of the raw milk handled at Kafr El-Sheikh Governorate. Therefore, the present study was conducted to evaluate the milk quality by chemical characteristics, bacterial content and somatic cell count in order to check the suitability of the milk for public consumption and for processing of high quality dairy products as follows :-