PHYSICAL AND CHEMICAL CHANGES OF PACKAGED UHT MILK

By

SAHAR FAROUK MAHMOUD DERAZ
B. Sc. in Agric. (**Dairying**) , 1989 , Ain Shams Univ.

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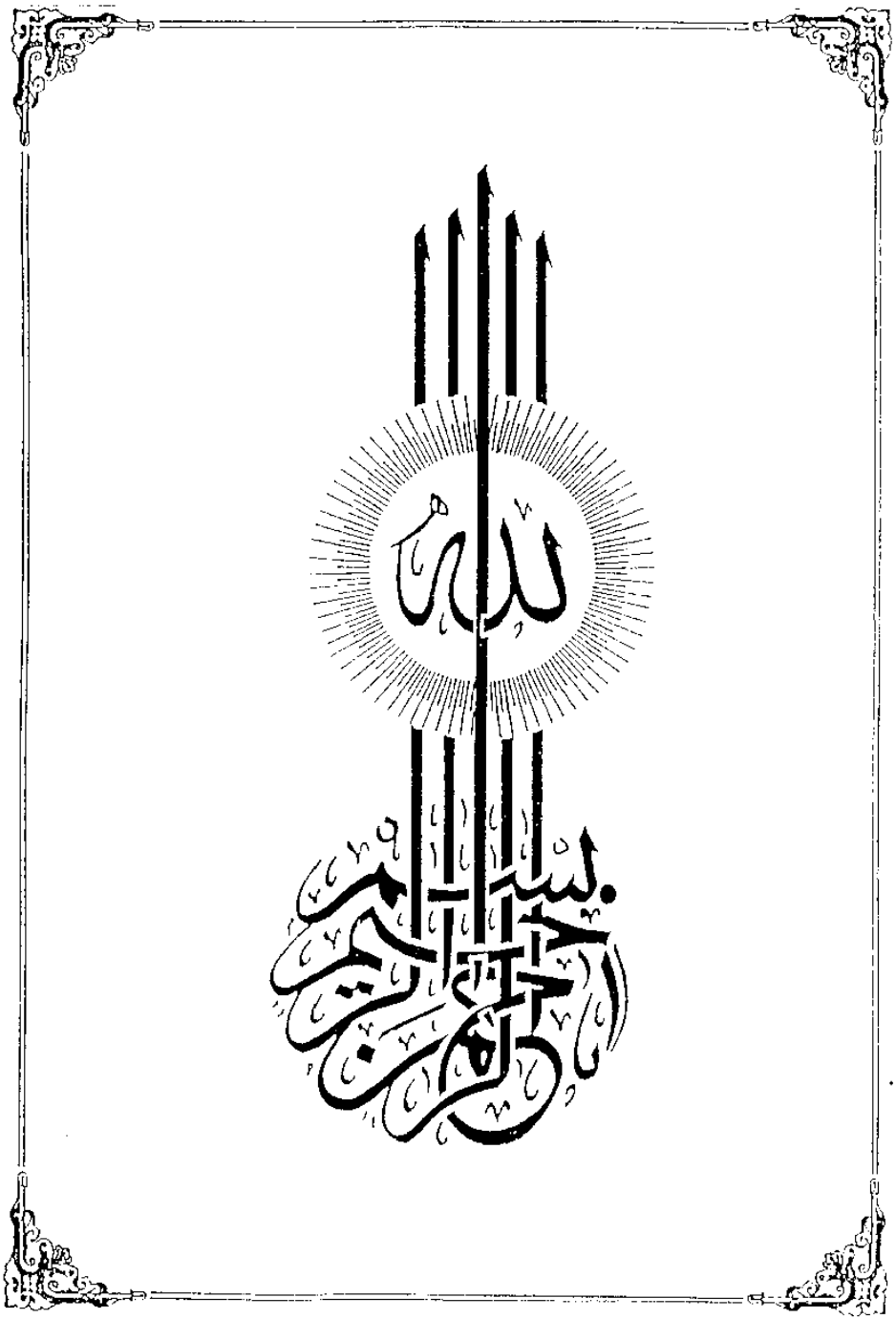

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ABSTRACT

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Physical and Chemical Changes of Packaged UHT Milk,

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During the past decade ultra high temperature (UHT) sterilized milk has achieved a still increasing market share of fluid milk. In the same period of time much research has been carried out to improve the flavour of UHT milk and to achieve a better. understanding of the factors governing flavour evolution of UHT milk during storage. It is now a well established fact, that besides heat treatment other factors such as packaging material, storage temperature and storage time play an important role in determining the keeping quality of UHT sterilized milk. UHT processing of milk has been attempted in **Egypt** for marketing fluid milk as it enhances the shelf life of milk at ambient temperature.

The objective of this study was to investigate the effects of various commercial processing (different time-temperature profiles and packaging material) and storage (ambient and refrigerator temperature) conditions on the physical, chemical and Organoleptic properties of UHT milk. A slight decrease was observed in total solids, fat, total nitrogen, lactose, pH, colour and flavour acceptability . The rate of decrease was faster in samples stored at room temperature. However, a little rise in acidity, non-protein N, non-casein N, thiobarbituric acid, free and potential HMF was noticed during storage. The rate was also faster at room temperature. Calcium and phosphorus. showed no change or very slight decrease during storage at both storage temperatures.

Therefore, it could be concluded that UHT milk packaged by Tetra pak system and stored at / or near refrigeration temperatures retains a satisfactory flavour for a much longer period than when stored at more elevated temperatures.

KEY WORDS : UHT milk- Packaging - Storage - Chemical changes - Physical changes - Sensoric changes.

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SAMAR F. M. DERAZ
SEPT. 7 , 1997

DEDICATION

I AM PLEASED TO DEDICATE THIS WORK TO MY HUSBAND ***MR. ASHRAF A. M. KHALIL*** . I HAVE TO PAY SPECIAL TRIBUTE FOR HIS SACRIFICES , ENTHUSIASM AND UNLIMITED HELP IN PREPARING THIS MANUSCRIPT .

I AM INDEBTED ALSO TO MY ***MOTHER-IN-LAW*** AND MY KIDS , ***SAMEH*** & ***MAZEN*** , TO WHOM I OWE THE TIME SPENT IN CARRYING OUT THE EXPERIMENTAL WORK .

SAHAR F. M. DERAZ

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