APPROVAL SHEET

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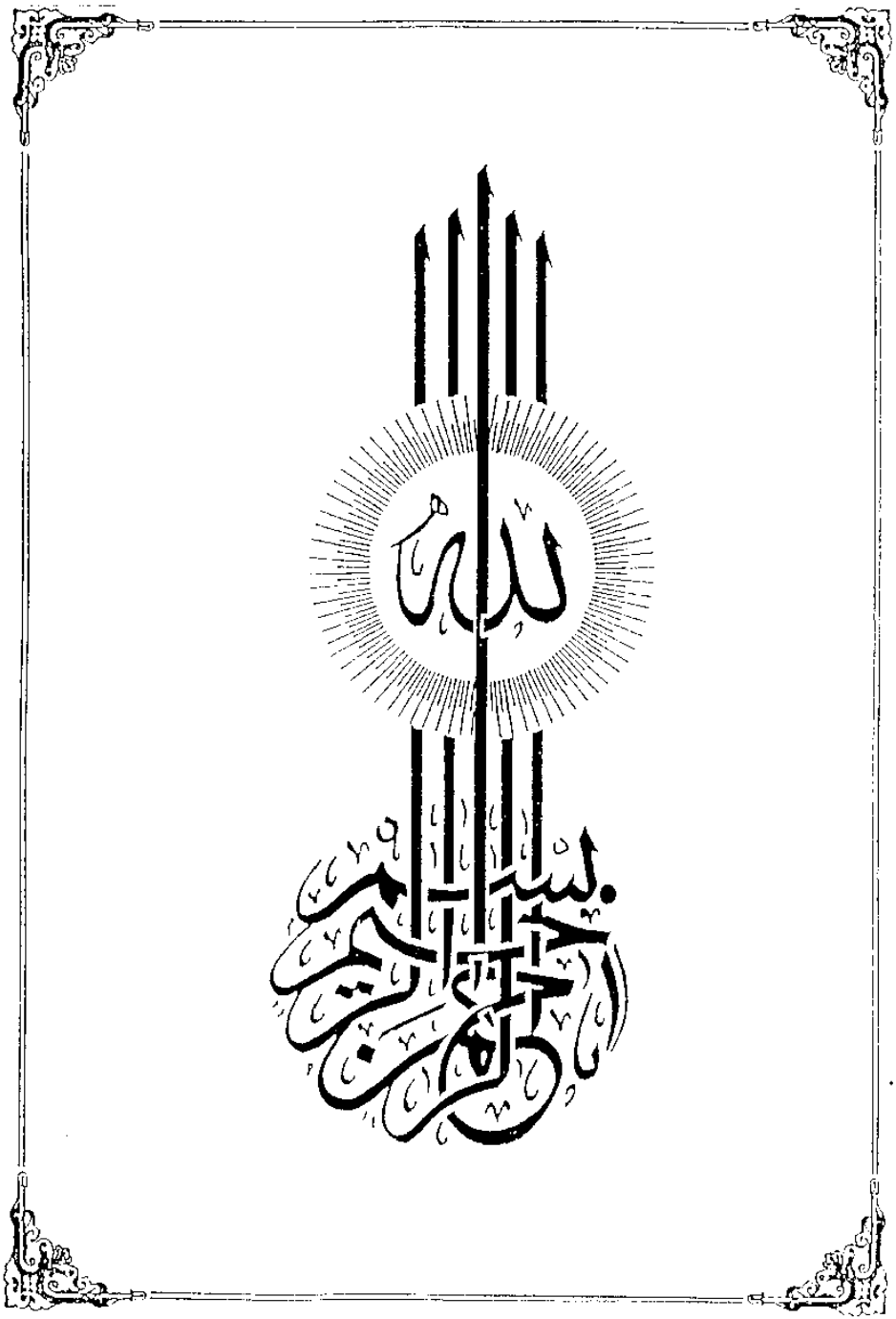

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1. INTRODUCTION

Kariesh "skimmilk" cheese is one of the indigenous white soft cheese types in Egypt. On the farms it is made from "Rayeb" milk. The latter is a naturally developed acidity coagulant during gravity creaming in earthenware containers. After skimming the sour cream, the "Rayeb" milk is drained in folded mats. After drainage, salt is sprinkled on the curd. Resultant cheese is either consumed fresh or after pickling in available farm-house milk by-products, e.g. butter milk, "Murta", whey ... etc.

In the factories, where centrifugal separators are used, skimmilk results inferior Kariesh cheese type due to lower fat content in separator's skimmilk. The first investigation to improve the quality and manufacture process of this cheese was carried out by Fahmi (1950), who used acid-rennet method, which offered a good basis and simplified technique for speedy and satisfactory method for making Kariesh cheese. Besides, cheese possessed better flavour and quality. Other efforts were conducted to improve the Kariesh cheese quality by El-Sadek & Abd El-Kotteleb (1958a; 1958b); Abou-Dawood & Abdou (1973); and Abdou & Dawood (1977) ... etc.

National milk supply has been rather limited during the last twenty five years. So far and as recorded by Abdel-Khalik (1981) the national milk yield covers only about 25% of the country demand. To cover the obvious shortage in liquid milk supply the use of milk powder was inevitable in Egyptian dairy

industry. So far, dried milk, whole or skim has been widely indroduced to most of the market dairy products e.g. liquid & fermented milks and soft & hard cheeses. In cheese making, some of the producers, who depend mainly on milk powder are of the opinion of playing about with the traditional reconstitution ratio 1:10, to avoid whey drainage and disposal problems.

Besides, lacking in milk supply, the country is also faced by a live stook problem, i.e. protein deficiency in human nutrition. Thus securing and saving milk proteins for any sort of mechanical loss during the manufacture process, is quite a necessity in dairy industry. It was thought of UF-technique as one of the main tools for the enrichment of dairy products with protein(Fenton-May et al.,1972; Chapman et al.,1974;Glover et al.,1978;and Hickey et al.,1983).

The term ultrafiltration has become increasingly familiar to the dairy industries. It is used successfully and commercially for manufacture of many soft cheese varieties. The technique is characterized by, higher cheese yield, full retention of protein in the product, shorter time of manufacture, less amounts of non-dairy materials needed e.g. rennet, starter and salt and shorter ripening time. Also increasing the industrial capacity and securing uniform products from day to day could not be also ignored. Whey pollution problems are also avoided, opposite to that sweet permeate could be used in several food and chemical industries (Delaney, 1981; Richter, 1983; and Halter & Puhan,1984). In addition, the possibility

of closed full automation in cheesemaking could be achieved only by the UF-technique (Maubois, 1973; Hansen, 1974; Jepsen, 1975; Kosikowski, 1977; Guengerich,1979; Horton, 1982; and Mann, 1982).

However, the investigation was conducted in two parts. The first part was concerned with throwing some light on the product manufactured by the UF-technique as well as the traditional procedure using fresh and dried cows' skimmilk. In the second part the effect of some skimmilk powder reconstitution ratios on the characters of resultant UF-Kariesh cheese was examined. Statistical analysis was applied on the data obtained in the two parts.

The data given in the present work on UF-Kariesh cheese and the resultants achieved on UF-Domiati cheese (El-Hofi, 1984), both may cover a comprehensive technical, chemical, physical and organoleptic background on the importance of indroducing the UF-technology to white soft cheese industry-from cows' milk - in Egypt. Needless to add that recent Dairy Farming Schemes in Egypt are based on cows' milk. It is badly hoped that these schemes will succeed in securing cleaner milk supplies other wise dependence on imported milk powder will continue to be inevitable, particularly if the UF-technique is to be adapted.

Finally, the facts and figures recorded in the two mentioned twin texts on UF-Kariesh and

UF-Domiati cheeses reveal numerous advantages for the UF-procedure, among which the following ones could be briefly recalted, uniform production from day to day, higher yields, shorter processing time, absence of loss in weight during storage or pickling, much less non-dairy ingredients needed ... etc and possibility of making use of UF-by product, actually permeate, in many other food and beverages industry.

2. REVIEW OF LITERATURE

2.1. Utilization of reconstituted skimmilk powder in Kariesh cheese manufacture and other white pickled cheeses:

Kariesh cheese is normally made from laban rayeb "gravity skimmed milk" or cetnrifuged skimmilk. However, several trials were carried out to produce Kariesh cheese either partially or completely from reconstituted skimmilk powder (R.S.M.).

Ghaleb (1975) tried to improve the quality of Kariesh cheese made from RSM by adding some flavouring compounds. The addition of diacetyl, amino acids mixture or combination of these flavouring compounds had little effect on the flavour of Kariesh cheese, while the use of citrate-fermenting starter improved the flavour. Moreover, the powder flavour was disappeared. Treating of the cheese milk with H_2O_2-catalase resulted in a fresh cheese with a somewhat soft body, open texture and satisfactory flavour. The addition of potassium nitrate to the cheese milk resulted in higher scores than the control, however,the fresh cheese was characterized with a rather tought