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**FRACTIONATION OF MILK PROTEINS FROM SKIM
MILK USING MICROFILTRATION**

**A THESIS PRESENTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF
TECHNOLOGY IN FOOD TECHNOLOGY
AT MASSEY UNIVERSITY**

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ABSTRACT

The possibility of fractionation of milk proteins from skim milk using microfiltration (MF) was investigated in this project. Pilot scale ultrafiltration/microfiltration equipment (Koch model) was used. Three available MF membranes, 600, 601 and 603, with pore sizes of 1.99μ , 0.85μ and 0.17μ , respectively, were evaluated. The most suitable membrane was found to be MF 603.

By microfiltration to concentration factor (CF_C) 7, permeation of 46% non-casein nitrogen (NCN) was achieved in contrast to 1% for casein. Using diafiltration with deionised water to a CF 567, permeation of 80% NCN occurred. Therefore, it is possible to obtain a casein-enriched fraction from the MF retentate and a non-casein nitrogen enriched fraction from the permeate by the MF process using MF membrane 603.

ACKNOWLEDGMENTS

I would like to express my sincere thanks to my supervisors, Mr Rod Bennett and Dr Harjinder Singh for their guidance, advice, encouragement throughout this project. They have enabled me to gain an understanding of milk protein chemistry, fractionation using membrane technique that give me a wide overview and will greatly aid me in future work.

I would like to thank Mrs Margaret Bewly for her help in providing valuable assistance during the protein analysis of samples; Mr Mike Conlon, Mr Hank Van Til and Mr Allister Young for their help in obtaining milk and Mr Byron Mckillop for his help for setting up the Koch UF/MF equipment.

I would like to thank Mr Ranjan Sharma for his help in preparing and scanning of SDS-PAGE.

My thanks also extend to the all staff and post-graduate students not named here in the Food Technology Department of Massey University for their help and friendship.

Finally, I would like to express my special thanks to my husband, Gan Li-guo, for his love, encouragement, support and help throughout the project, and to my son and my sister for their understanding, patient and some typing work, and to my father, mother, brother and the whole family for their understanding and moral support.

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