

Foreword

It is agreed amongst nutritionists that milk protein is, apart from egg protein, the most valuable protein for human nutrition. However, a study of the statistics for human consumption of milk and milk protein reveals certain remarkable anomalies. For example, in parts of the world up to 20% of the milk protein produced is not being used directly for human consumption, but is fed instead to animals.

Since other edible proteins are by no means cheaper than milk protein, the question arises as to why more of the available milk protein is not used for human consumption. One reason for the discrepancy between the high nutritive value of milk protein and its less than optimum utilization is that the traditional products in which it can be offered to the consumer do not have the same appeal as other protein sources, such as meat and fish. To rectify this position the dairy industry is now becoming very interested in finding new ways of utilizing milk in products which could better compete with other foods.

Progress in this respect, however, is not just a question of technology. Modern processes such as texturizing by spinning or extrusion are available, but to apply them, more fundamental knowledge on milk proteins is required.

In the past it was normally sufficient to treat milk protein in its native form, i.e. as a dispersion of particles in milk, and to make use of established processes to transform it into traditional dairy products. Today, however, at the threshold of a period of development when there is a need to consider milk constituents, especially the proteins, as components of a new range of foods tailor-made to meet the modern requirements of human nutrition, a more detailed and precise picture of protein composition, structure and properties is necessary. The availability of some 10 million tons of milk protein, produced annually throughout the world, is therefore a considerable challenge to scientists associated with the dairy industry. Never before has the industry been more dependent on scientific progress, with milk producers and dairy manufacturers learning that better protein utilization is one of the important keys to their future.

Being aware of the importance of fundamental protein research for the dairy industry, the International Dairy Federation supported the organization of this Symposium on the physics and chemistry of milk proteins which was held at The Hannah Research Institute. The value of the Symposium was confirmed by the participation of 64 highly qualified protein scientists from 18 countries, who discussed 31 papers on such items as biosynthesis and secretion of milk proteins, protein association, minor caseins, casein micelles, and applied aspects of milk protein research.

That the Symposium was a success is attributable to Professor J. A. F. Rook, Director of The Hannah Research Institute, and Drs D. T. Davies and C. Holt who prepared the scientific programme.

The International Dairy Federation is convinced that the Symposium contributed to further progress in our knowledge of milk protein and will support any initiative

for further activities in the field of protein research which arise from the Proceedings, the publication of which will attract the attention and interest of many of those associated with dairy science and the dairy industry.

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