

of traditional and novel food uses from around the world. Finally, the chapter by Frank on cottonseed proteins focuses on processing methods and the properties of crude protein isolates, with about half of the text devoted to the removal of gossypol and other toxic compounds.

If there is any single lesson to be learnt from these three chapters, it is that there is still a wide gulf between the molecular studies of seed protein genes and our knowledge of protein functionality.

The two traditional sources of food proteins, meat and milk, are highlighted in chapters on 'The Coagulation of Casein Micelles' (Bringe and Kinsella) and 'Functional Properties of Muscle Proteins' (Morrissey *et al.*), while contributions from the Leatherhead Food Research Association describe protein foaming and gelling systems (Poole and Fry) and methods for assessing functionality (Patel and Fry).

Although the present volume in particular, and the series in general, are well balanced in most respects, the proteins of wheat and other cereals have been comparatively neglected. Not only has there been a great increase in our knowledge of wheat protein structure since it was reviewed in volume 2 (1983), but the current production surplus of wheat in the EEC makes gluten an attractive raw material for new lines in the food industry. I hope that this imbalance can be corrected in future volumes of what has proved to be a very useful series.

Peter Shewry

**Recent Advances in Chemistry and Technology of Fats and Oils.** Edited by R. J. Hamilton and A. Bhati, Elsevier Applied Science, London, 1987. xii + 188 pp. ISBN 1-85166-070-4. Price: £30.00.

The editors describe this text as 'an attempt to provide some insight into the current state of the art' (relating to the chemistry and technology of fats and oils). Eight subjects of interest to scientists and technologists have been selected for discussion.

Chapter 1 by Birker and Padley describes the physical properties of fats and oils including, melting behaviour, polymorphism, phase diagrams and compatibility of fats in blends. Thermodynamic properties of fats are well summarised in this chapter. In the following chapter, the late Dr Bhati provides a useful account of alternative procedures for determining the fatty acid sequence in triacylglycerols and related compounds. The following two chapters are more relevant to the fat technologist. Industrial aspects of lipid oxidation and hydrogenation of fats are discussed by J. C. Allen and H. B. W. Patterson, respectively. The latter chapter includes a discussion of plant

design and operational details relevant to the safe and efficient hydrogenation of fats, as well as a brief discussion of various pathways of hydrogenation. Chapter 5, by W. W. Christie, discusses the analysis of lipids, mainly by GLC, HPLC and TLC. Analysis of lipid classes, total fatty acids, positional distribution of fatty acids, and intact triacylglycerols are discussed with special reference to milk fat. Chapter 6, by P. J. Barnes, presents an excellent discussion of the complex effect of wheat grain lipids and their role in the bread-making process. Much of the recent data from the literature on the fatty acid composition of plants is presented in tabular form in chapter 7, and this provides a useful set of reference data. The final chapter, by J. Podmore, describes the application of fat modification techniques. The relationship between triacylglycerol composition and the use of fats in food products is discussed, and the effects of fat modification are considered.

This text provides a very valuable source of information about eight subjects which are of great concern in the analysis and application of fats and oils in food products. The contributors are all recognised experts, and all chapters except that on lipid oxidation provide useful references for further detailed reading. There are very few typographical errors, and although there are some inconsistencies in nomenclature including triglyceride and triacylglycerol, and S or St being used as abbreviations for stearic acid, the general standard of presentation is good.

This book is highly recommended for all scientists interested in the chemistry and technology of fats and oils.

**M. H. Gordon**