

considered in the sixth chapter. DSC thermograms for wheat proteins and protein fractions from oats and other cereals are compared and discussed alongside problems associated with water activity and the changes that occur during baking.

The wealth of information on thermal analysis of food carbohydrates is surveyed in the seventh chapter. This review covers the behaviour of starch, sol-gel transitions of polysaccharides and phase behaviour of frozen systems. The water sorption phenomena and thermal degradation of carbohydrates are also considered.

The last three chapters are written by American authors. Cryostabilization technology: thermoanalytical evaluation of food ingredients and systems is reviewed (for the specialist more than the novice) using material updated from previous reports by the same authors. They discuss the physiochemical basis of cryostabilization technology; the theory of, and methods for, low-temperature DSC on carbohydrate and amino acid/protein systems; the theoretical basis of cryostabilization technology related to collapse processes; the practical aspects of cryostabilization technology related to real food applications. This review contains useful tables summarising the thermal properties of commercial ice cream products, commercial starch hydrolysis products, sugars, glycosides and polyhydric alcohols as well as for wheat flours and bread formula additives.

Applications of thermal scanning rheology to the study of food gels and the applications of thermogravimetry in food technology are reviewed in the last two chapters. Rheometers employing small strain dynamic measurements are clearly, but briefly, described. In the last chapter it is argued that thermogravimetry and pyrolysis cover food technology from the raw material to packaging.

This book is recommended to researchers interested in food research. Food processing usually involves a heating or cooling step which makes thermal analysis perhaps more appropriate to food research than other scientific disciplines.

**Barbara Brockway**

**Food Science Source Book (2nd Edn). Part 1: Terms and Descriptions. Part 2: Composition, Properties and General Data.** By Herbert W. Ockerman. AVI Van Nostrand, 1991. 1492 pp. ISBN (Part 1) 0-442-0076-0. (Part 2) 0-442-2333854.

What is so convenient about these two volumes is their alphabetical listing and hence their practicality for use. Part 1 is effectively a food dictionary

whereas Part 2 gives a set of composition tables which are useful to compare with other compilations such as Paul and Southgate. The author obtains his data from a variety of reliable sources which are always listed and the book on composition (Part 2) is aided by occasional pictures and diagrams. Professor Ockerman prefaces this edition with the note that he has accumulated 12 additional years of data since the first (1978) edition of his book. He is to be congratulated on making such extensive knowledge available to all of us. I thoroughly recommend these two books.

**Gordon G. Birch**