

Book Reviews

DETERMINATION OF FOOD CARBOHYDRATES. By D. A. T. SOUTHGATE. Pp. 178, + ix. Barking: Applied Science Publishers, 1976. Price £10.

There was a real need for a comprehensive volume, bringing together the traditional (and sometimes arbitrary) methods of carbohydrate analysis and the newer (more scientific) techniques, arising from chemical and biochemical studies. Nutritional considerations make it necessary for food chemists in general, and Public Analysts in particular, to be able to relate the results obtained by both types of analysis and to draw correct conclusions as to the nutritive value of various carbohydrates. That such a small volume achieves this sort of synthesis and produces a product of such clarity has been a pleasant surprise, particularly as the reviewer has attempted to follow the progress of carbohydrate chemistry over the years, jumping incrementally from one scientific paper to the next. The condensation reaction initiated by the author has produced a very satisfactory end-product.

The section dealing with practical instructions is somewhat limited and might, with advantage, have included more "technical" methods of analysis. For example, approximate but usefully quantitative results can be obtained by combining the "reducing" and "polarimetric" techniques when dealing with some mixtures of sugars; also, when dealing with products containing glucose syrups, if some assumptions can be made regarding the copper reducing values and optical rotation of the glucose syrup, there are parametric techniques for evaluating such sugar mixtures. Another example can be given from the sections relating to starches—the calcium chloride method of starch determination could well have included a list of the accepted optical rotations of the individual starches.

In the descriptive section of the book it was noted that the use of Carrez solutions for deproteinisation was not mentioned although the technique is described later in the practical section. It is valuable to know that treated starches yield low results by the normal methods for starch determination. Some examples to indicate the magnitude of the error would have been useful.

There are traditional methods of analysing meat and cereal products which involve the concept of "starch by difference". This parameter is calculated by deducting protein, fat, and ash from the dry weight, and is clearly not all starch. Some indication of the probable difference between this figure and the results of the starch determination would have been valuable. Alternatively the amounts of hemi-celluloses in rusk, break and flour would enable this useful correlation to be established. The omission of lactose from the list of carbohydrates that may be found in "ready to consume" soft drinks is unfortunate but understandable, since its use, in the form of condensed milk is recent.

The lay-out is attractive and the text is almost without typographical errors.

In conclusion, one can only be grateful for such a competent summary of "the state of the art", together with such an excellent compilation of references within a serviceable hard cover, 6 inches by 9 inches in size. Selling for £10, this book is value for money. A novel feature is a list of chapter headings printed on the rear flap of the orange-coloured dust cover. The book will be of real assistance to practising analysts and research workers alike—helping each to understand and interpret the results of the other.

G. B. THACKRAY

THE CHEMICAL ANALYSIS OF FOODS. By DAVID PEARSON. Pp. 575 + xii. London: Churchill Livingstone. 7th Edition, 1976. Price £13.50.

The seventh edition of this well-known text book and the third under the able guidance of Dr David Pearson makes a welcome appearance and fully maintains the reputation it has acquired. It may, perhaps, come as something of a surprise for some to learn from the small print at the foot of page vi that it is also the first Chinese take-away edition. *O tempora! O mores!*

The forty years that have elapsed since the book was first published have been characterised by great technological advances, which have resulted in more sophisticated methods of food production and preservation and in increasing complexity of analytical techniques. These, in turn, have been paralleled by a formidable extension of legislation. It is therefore to Dr Pearson's credit that he has managed to produce a book which is both up-to-date and comprehensive and yet has slightly fewer pages than the previous edition. The combination of methods by which this feat has been achieved is admirably stated in the Preface and few would question their soundness.

Space has been gained for new material by skilful adjustments such as the omission of some experimental detail in certain selected methods and the adoption of a slightly different format, which imparts a cleaner, more modern, impact. Less prominence has been accorded to labelling, which is, after all, not chemical analysis and is subject to the controversial vagaries of interpretation. The necessity for bringing legislation in this country into line with that of the EEC has resulted in a bewildering welter of Directives, Proposals and new Regulations, so that the chapter summarising UK Regulations has been dropped. Nevertheless, existing legislation up to the time of going to press is fully covered in the individual chapters.

The familiar plan of the sixth edition has been retained with one or two alterations, of which the most obvious is the transference of all references from the text to the end of each chapter, an innovation which makes for a tidier, less distracting text.

The book is a mine of information on food matters and even on sources of supply for special chemicals and reagents. It has all the hallmarks of Dr Pearson's meticulous care and attention to detail and includes much new and valuable information. The determination of trace metals by means of atomic absorption spectrophotometry is given some prominence and details of the

polyamide method for the extraction of colours from foodstuffs are included. Adequate attention has been paid to the interpretation of results and a number of EEC and Codex Alimentarius standards have been included. It was the author's misfortune that this edition had to be prepared at a time of considerable uncertainty for food legislation in this country and it seems obvious that the compromise he has had to make has been very successful.

The type is clear, the lay-out easy to follow and no misprints or major errors were detected. The book remains an indispensable aid in the food laboratory and a valuable text for students. It is, in fact, the Bible of the food analyst. In view of the problems of harmonising UK legislation and methods with those of the EEC, perhaps someone should set about writing a corresponding Book of Common (Market) Prayer!

S. J. BUSH

