

## Book review

*The Science of Chocolate*. Stephen T. Beckett. The Royal Society of Chemistry Paperbacks. 2000. Pp. 175. £18.95. ISBN 0 84504 600 3

The aims of this book are extremely ambitious. The author states that it would be useful for those studying food science at university or about to join the confectionery industry, while much of the book should be readable by 16–18-year-olds and adaptable to GCSE science or even younger pupils.

A vast amount of information is packed into nine chapters. Chapter 1 is an interesting introduction to the history of chocolate. The ingredients of chocolate are described in chapter 2, which includes information on the origin, chemistry, and production methods. Chapters 3–7 deal with the production of chocolate products, from cocoa-bean processing through to liquid chocolate making, controlling the properties of liquid chocolate, crystallizing the fat in chocolate and finally manufacturing chocolate products. The author has attempted to relate the manufacturing methods to the physical and chemical properties of the ingredients, intermediates and products, and has included considerable detail regarding process equipment and methods. Discussion of factors which affect product quality is a particularly strong point.

Chapter 8 considers analysis of the products, including chemical determination, but mainly physical variables such as viscosity, particle size, texture and crystallization, with a short section on flavour.

Chapter 9 considers legislation, nutritional aspects, shelf-life and packaging.

A final chapter gives a series of simple laboratory experiments with chocolate and chocolate products.

The content is extremely uneven in depth, which probably reflects the author's background in physics. For example, on one hand we are given very simple descriptions of what an enzyme and an amino acid are, while physical concepts such as viscosity variables and crystallization behaviour are presented in a much more complex manner. Possibly the work is aimed at too wide a readership. One annoying error is that cream is described as a water in fat emulsion (p. 76).

Overall, however, the book is packed with information and will be very useful to many groups. I would certainly recommend it as background reading for food science and food technology students. Schools will find this useful for food-related GCSE and A level courses: the laboratory experiments will be particularly in demand. It would also serve as a good introduction for those entering the confectionery industry.

The presentation is generally good with plenty of photographs and diagrams, and a reasonable quantity of references and further reading are suggested.

In short, this is a bargain at £18.95.

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