

Microbial Production of Nucleic Acid-Related Substances

Edited by K. Ogata, S. Kinoshita, T. Tsunoda and K. Aida
Kodansha Ltd; Tokyo. John Wiley; Chichester, 1976
xviii + 348 pages. £ 19.50, \$ 30.00 (cloth)

The Japanese fermentation industry produces about 3000 tons of IMP plus GMP per year, as well as other nucleotides and nucleosides, and nucleoside antibiotics, not to mention RNA itself and several important nucleases. IMP and GMP are used as flavourings, especially in synergism with monosodium glutamate. The book attempts to survey the scientific aspects of this industry, going beyond the review by K. Ogata (1975) in Volume 19 of *Advances in applied microbiology*. All forty-three authors of the book are from Japan, four of them being editors and a further eight are assistant editors. It is disappointing that the bevy of editors have not been more successful in eliminating patchiness and duplication between the various chapters. However, Chapter 2 on the biosynthesis of nucleotides and its regulation is excellent and so is Chapter 10 dealing with the microbial production of IMP and AMP and their leakage from the bacteria by the appropriate level of manganese deficiency. Chapter 1 surveys microbial nucleolytic enzymes, several of which are discussed more fully in three later chapters. There is some duplication among these four chapters and, unfortunately, no cross-references. The chemical phosphorylation of nucleosides is discussed extensively in both Chapters 9 and

14. Other chapters deal with the production of nucleotide co-enzymes and sugar nucleotides, while a final section considers the uses of the many products. In this section, the best chapter discusses the use of 5'-ribonucleotides as flavourings, although it is astonishing to read that compound chemical seasonings can reduce the amount of natural materials required to half of the original level without loss of quality. No information is given about the extent to which the nucleotides are used as flavouring agents outside Japan. The chapter on the use of nucleotide agents for medical treatment is not informative, while the final chapter on nucleoside antibiotics is little more than a catalogue of names and structures.

Besides being uneven in quality, the chapters are uneven in presentation. Some even have separate reference lists for each sub-section. Some chapters indicate type-culture numbers, but most give no indication about the availability of important strains. Genetic markers, even for *Escherichia coli* are, for the most part, designated in non-standard forms. Yet typographical errors are few and there is much useful information that is not easily obtained in Western scientific libraries.

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The Enzyme Molecule

Edited by W. Ferdinand
John Wiley; London, New York, Sydney, Toronto, 1976
xvi + 289 pages. £ 9.50, \$ 20 (cloth); £ 4.50, \$ 10.00 (paper)

This book has the ambitious aim of presenting in under 300 pages what undergraduates in biology,

biochemistry and chemistry want to learn about enzymes. In such a short book it is inevitable that