the selection of criteria for organisms constituting a health risk and for those indicating imminent spoilage. This chapter then reviews the use of reference values for the major classes of foods (milk, cream, soft cheese, meats, etc.).

Chapter 9, 'Recommended routine procedures for the microbiological examination of foods', aims to review 'selected procedures that have evolved during ~40 years of experience of the senior author...'. These are not all familiar procedures and therefore in some cases will not provide a common reference point for students in their transition to a professional setting. Thus, it will be a minor inconvenience for educators in the USA, and probably also in other countries, who will need to supplement the material with important references such as to the Bacteriological Analytical Manual².

Essentials of the Microbiology of Foods: A Textbook for Advanced Studies is particularly valuable because it considers food microbiology as microbial ecology and strongly ties the material to important scientific principles. Students, teachers and industrial scientists will appreciate the substantial number of references to important literature. Unfortunately, however, for a teaching text, some of the figures are unnecessarily complex and thus detract from the important points that are to be learned, and occasionally the authors stray from their substantial scientific base (e.g. in a discussion of 'method freaking'). Additionally, there is a notable lack of consideration of the microbiology of food fermentations. Nonetheless, without question this book will be an asset in food microbiology education and will be an essential addition to industry libraries. I look forward to using this book and watching my students learn, as I have, from these authors.

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References

Fruit Flavors, Biogenesis, Characterization and Authentication (ACS Symposium Series 596)

important fruit esters is discussed in two papers that are concerned with the acyltransferase activity in strawberry, banana and apples. Other papers in this section are on the following subjects: C_{13} norisoprenoids in starfruit, methyl anthranilate in Vitis juice, and the industrial conversion of citrus limonene. Some of the papers should not have been placed in this category. ‘Fruit flavor precursors’ is the title of the fourth section, which mainly deals with the glycosides of aroma components in tomato, mango, apricot and apple, and includes descriptions of many interesting analytical procedures.

Section 5, 'Packaging and storage interactions', consists of two papers, in which topics discussed include limonene–polymer interactions, microbiology, and off-flavours developed by anaerobes in fruit.

The sixth section, 'Environmental, maturity and varietal flavor differences', is inhomogeneous; the subjects are: methoxypyrazine in wine, aroma compounds in blueberry varieties, key aroma compounds in melons, lactones in apricots, furanones in strawberries, and volatile acids in Ginkgo biloba fruit.

Thus, it is evident that the topics of the book are very broad (perhaps too broad); fruit and flavours (aroma) are the only factors that bind the sections together. The compositions of the papers are extremely varied, some are like original scientific papers and others are more or less like review papers, where the example material and methods are not well described. In my opinion, some of the papers have failed to attempt to identify sufficiently important aroma components. The book contains an author index and a subject index, both of which seem to be more or less in order, and the layout is in order. However, some figure texts are not satisfactory.

In summary, this book provides a lot of information about many aspects of aroma components in many fruit and fruit products. Although a more homogeneous composition of the papers would have been useful, many of them will provide those who are interested in fruit aromas with new and original information; moreover, some very useful descriptions of different analytical methods are described.

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