

chemistry of mycotoxins, reported by Steyn and Vlegaar, are the structures of the fumonisins, metabolites of *Fusarium moniliforme* considered to be implicated in the etiology of oesophageal cancer in parts of Southern Africa.

For a number of years the macrocyclic trichothecenes known as the baccharins (because they were isolated from Brazilian shrubs of the genus *Baccharis*) have provided a tantalising puzzle. Because of their very close similarity to the roridins, isolated from species of *Myrothecium*, I, for one, was convinced that they would prove to be mould metabolites. However, the report by Professor Bruce Jarvis and his colleagues of the University of Maryland seems to confirm that at least one species of *Baccharis* can synthesise macrocyclic trichothecenes *de novo*.

In September 1987, a symposium on *Fusarium—Mycotoxins, Taxonomy and Pathogenicity* was held in Warsaw and the contributors to that meeting have provided the 26 chapters for the book of that title. Although there have been several monographs on *Fusarium* much of the material of this book complements that already published. The first chapter is an updated version of a list of metabolites of *Fusarium* produced by Vesonder and Hesseltine in 1981 in the monograph *Fusarium: Diseases, Biology and Taxonomy* edited by Nelson, Toussoun and Cook. The requirement for an update is demonstrated by the increase in the number of pigments from 16 to 38 and in the number of trichothecenes from 17 to 48! Chapters vary from the very specific, such as those on fusarin C (Chapter 2) and on the taxonomy and nomenclature of *Microdochium nivale* (*Fusarium nivale*) (Chapter 11) to those on broader ecological themes. That mycotoxins from *Fusarium* are not restricted in their significance to man and terrestrial farm animals is demonstrated by a review of trichothecene poisoning of fish (Chapter 7). There is an interesting irony in the possibility of controlling one mycotoxin problem, namely the infection of cereals by ergot fungi, with hyperparasites of *Claviceps* from the genus *Fusarium* which may themselves produce trichothecenes (Chapter 22).

Both of these books have a wealth of interesting and useful information and provide valuable insights into the occurrence and significance of mycotoxins and, in the case of the first, phycotoxins.

**Maurice O. Moss**

**Potato Science and Technology.** By G. Lisinska and W. Leszczynski. Elsevier Applied Science, London and New York, 1989. xii + 391 pp. ISBN 1-85166-307-X. Price: £58.00.

Books on the potato have been appearing with increasing frequency in the last 10 years and with some justification, since potato production has ceased

to be the virtual monopoly of temperate regions, while in these traditional areas there is a lively commercial interest in the production of quality potatoes for an increasingly exacting market for potatoes destined for processing. It is this latter aspect of potato production that is the major concern of this book.

In their introduction, the authors, two scientists from the Department of Storage and Food Technology at the Agricultural Academy in Wroclaw, remind the reader that Poland is the leading world producer of potatoes, and should therefore be well placed to originate such a book—although it is a little surprising to discover that the manufacture of French fries in Poland began as late as 1972 and the production of chips (crisps) on a large commercial scale is only planned for 1990.

One third of the book is devoted to potato tubers as a raw material for processing and nutrition, one tenth to storage, just under a fifth each to the manufacture of chips/French fries and to potato starch processing, and about a tenth to dehydrated products. Since about 50% of the potato crop in Central Europe is destined for animal feed, the production of dried potatoes for livestock feed and potato silage has been dealt with in two relatively small chapters at the end of the book. It was, however, rather surprising to read that since the dry matter yield of the potato crop is twice that of barley, the potato as a livestock feed could alleviate the demand for cereals which, the authors suggested, are increasingly deficient in most European countries!

The book has three particular strengths. First, it covers a great wealth of literature which, because of availability and for language reasons, is not readily accessible in English speaking countries. Secondly, the authors have, with each of the end products, set themselves the task of seeing the crop through all its stages from the seedbed to the stomach. Thus, the way in which the crop is produced is considered in the light of its effect on each of the specific aspects of quality which affects its suitability for both its efficient manufacture and intended use. Thirdly, the authors have dealt with the subject clearly and unambiguously, their diagrams are exemplary and the photographs apposite.

The authors have on the whole been well served by their translator, although it is a little surprising to read that '... chlorogenic and caffeic acid are active in the final stages of transpiration in potato tubers', that 'Ascorbic acid functions in a plant as a biocatalyst in the processes of transpiration' and that 'intoxication is possible when potato fruit or sprouts are eaten'. Rather more dangerously, and throughout the book, it is asserted that particular experiments 'prove' things. The authors have included a fairly large number of photographs, chiefly of potato tuber diseases which affect processing quality, and of processing machinery. The quality of some of these, particularly of some of the diseases, leaves something to be desired.

However, an appealing feature is that the photographs do not appear to be there just to break up the text, but consist of almost the complete set of the diseases and machines discussed. Perhaps the least accurate feature of the book is the drawing of the potato on the cover; perhaps a rare example where imagination in the artist should have been discouraged.

The authors are to be congratulated on having tackled a subject that would normally have been dealt with by a number of specialists. They have been able to do this by sticking very rigorously to their objective of regarding the potato as a raw material for particular processing outlets. This has nevertheless entailed tracking down the effects of variety, seed treatments, fertilizers, pesticides, length of growing season, defoliation, time of harvest, storage conditions and how these influence the desired attributes of tuber quality both for processing and consumption. Inevitably there is some repetition, but, probably because only two authors have been involved, this has been kept to a minimum. Perhaps also inevitably, some readers would have welcomed hypotheses which might explain the underlying biological principles involved and which might reconcile contradictory results and which could be tested in perhaps fewer but more comprehensive experiments. However, the authors have served the subject well and the book should find a place on the bookshelf of anyone seriously interested in the topic.

**P. M. Harris**

**Volatile Compounds in Food—Qualitative and Quantitative Data.** By H. Maarse and C. A. Visscher. TNO-CIVO Food Analysis Institute, Zeist, The Netherlands, 1989. xliv + 1377 pp. in three volumes. ISBN 90-6743-168-0 Price: Dfl. 1500.00.

This compilation of published data, on volatile compounds which have been isolated from foods and beverages, is the sixth edition of a reference work which has become as essential a part of the flavour chemist's laboratory as his gas chromatograph or mass spectrometer. The first edition of *Volatile Compounds in Foods* was compiled in 1963 by the late Dr C. Weurman at the flavour laboratories of the TNO Division of Nutrition and Food Research in The Netherlands. At that time the laboratory was already established as one of the leading centres for flavour and aroma research in Europe, and it was recognised that an important aspect of any flavour research programme is the regular searching of the scientific literature for details of the volatile aroma compounds isolated from foods. This gave rise to a relatively simple compilation of volatile compounds, listed for each food product in which