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*The Soybean. Botany, Production and Uses.* Edited by G. Singh. Wallingford, UK: CABI(2010), pp. 494, £115.00. ISBN 978-1-84593-644-0.

This book with 20 chapters and 34 contributors provides researchers and students with information arranged in sections on history and importance, botany, genetics and physiology, production, utilization and marketing and trade of soybean. Considering the global importance of this crop as number one in production among legumes, this is an ambitious book. It is largely well written/edited and is packed with valuable information for researchers. All the chapters are well supported by extensive lists of relevant references. The objectives have been achieved to a large extent with some very informative chapters such as Chapter 1: The origin and history of soybeans; chapter 6: Soybean yield physiology: principles and processes of yield production; and chapter 20: Global soybean marketing and trade: A situation and outlook analysis. However, some chapters tend to be more regional, such as Chapter 4: Soybean genetic resources. Others such as Chapter 12: Storage of soybean, place much more emphasis on a single point like 'drying'.

Bridging traditional research on soybean with modern molecular investigations is the current thrust and areas where the coverage of this book could have provided more value and understanding are: genetics; management of abiotic stresses; breeding for biotic and abiotic stress adaptation; newly introduced varieties, and quality and modern tools for breeding and adaptation to global warming.

Rajeev K. Varshney

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*Physiology of the Pea Crop.* Co-ordinated by N. Munier-Jolain, V. Biarnes, I. Chaillet, J. Lecouer and M-H. Jeuffroy with the collaboration of B. Carrouec, Y. Crozat, L. Guilioni, I. Lejeune and B. Tivoli. Boca Raton, FL, and Enfield, NH, USA: CRC Press and Science Publishers (2010), pp. 272, £53.87. ISBN 9-78157-808570-5.

This book is a detailed account of recent research into the physiology of the pea crop that draws on contributions from researchers in a range of disciplines within crop and plant science. It summarizes an extensive research programme in France which was a collaborative effort between technical institutes, research and agronomy schools, public and private plant breeders, co-operatives and Chambers of Agriculture. The book is well organized, providing an accessible account of current knowledge of pea physiology for researchers and students of crop science. The text is well supported by figures and diagrams throughout and cites journal papers extensively. The *Physiology of the Pea Crop* concludes with a chapter on the prospects for legume crops in France and Europe – an important issue with the current focus on global food security. My only criticism of the book is that in a few places the English can be difficult to follow and some important words are spelt inconsistently, e.g. *phyllochron* is spelt *phyllochrome* in some chapters (presumably the French spelling), which could be confusing for students who are unfamiliar with the terminology.

Overall, I welcome this book as an excellent summary of research into the physiology of the pea crop. It is well presented and is a valuable new text in this area.

Debbie Sparkes

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*Cereal Grains: Properties, Processing and Nutritional Attributes.* By S. O. Serna-Salvidar. Boca Raton, FL, USA: CRC Press (2010), pp. 747, US\$99.00. ISBN 978-1-4398-1560-1.

This book seeks to provide comprehensive coverage of the processing of cereal grains and grain constituents into an array of food, beverage, fuel, industrial and animal feed applications. Early chapters give

introductions to the diversity, comparative biology, history of cultivation and social and economic importance of cereals, but the main body of the work concerns the technologies of storage, processing and production. It is aimed at teaching environments, each chapter concluding with a self-assessment exercise. Otherwise, its main appeal will be for those involved in practical handling and utilization of grain, although the depth of coverage may discourage general readership, while specialists may seek more restricted subject areas.

Another problem, for a single author, is the quality of coverage in areas outside his personal specialities. Here, those areas where the author is able to cite his own references convey his knowledge and enthusiasm, but other sections seem heavily reliant on published sources, with geographic, technical or scientific limitations not always appreciated. While grading of samples is well covered, classification, especially of wheat, receives limited attention, despite the biochemistry and genetics, underlying differences between hard and soft milling, being well understood. Additionally, European maltsters and brewers would take issue with diastatic activity as the most important malt attribute, which only applies when brewing, as in the USA, uses large quantities of starch-based adjuncts. Despite these limitations, however, the book is a significant achievement and, with regard to global deployment of cereals for human and animal nutrition, will prove an extensive and valuable source of information.

J. Stuart Swanston

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*Controlled Atmosphere Storage of Fruits and Vegetables*. 2nd edition. By A. K. Thomson. Wallingford, UK: CABI (2010), pp. 288, £85.00. ISBN 978-1-84593-646-4.

With the importance of international trade of fruit and vegetables, postharvest technologies capable of cutting waste and reducing energy consumption are of increasing interest. Controlled or modified atmosphere storage, the subject of this book, involves the manipulation of the storage atmosphere to slow down produce metabolism, maintain quality and hence extend storage life.

The strength of this book, a revised edition, is not so much in the explanation of the principles and technologies involved, but in the thorough coverage of available information. The author covers several aspects of the subject. For example while most of the book concentrates on science, the introduction provides a very interesting overview of the historical development of controlled atmosphere storage. In subsequent chapters the author supports the description of aspects of postharvest handling with a wealth of specific commodity information. The fact that fruit and vegetables vary so much in their behaviour often causes confusion for those handling them, making this a particularly important feature of this book. Chapter 9 provides a particularly detailed review of the recommendations for controlled atmosphere storage of an extensive range of crops. Having been written by someone with an understanding of the practical applications of postharvest technology in addition to research, the book provides interesting insights into why some technologies have been taken up commercially while others have not.

Altogether this book is an invaluable source of information, and an excellent reference book for professionals and researchers involved in postharvest technology of perishable food crops.

Debbie Rees

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*Plant Cell Culture: Essential Methods*. Edited by M. R. Davey and P. Anthony. Chichester, UK: John Wiley & Sons Ltd (2010), pp. 341, £60.00. ISBN 978-0-470-68648-5.

For anyone working in the area of plant tissue culture, micro-propagation or transformation this book is essential reading. Learn how to set up your own mutagenesis experiment, perform protoplast fusions or grow your own hairy root cultures. From comprehensive protocols that take you step-by-step through each experimental procedure to troubleshooting guides that pass on all the trade secrets, this is a treasure trove of facts. Key