

The book contains a comprehensive amount of detailed information of value to those concerned with the production, processing and utilization of this highly valued but neglected crop, or for those contemplating embarking on new saffron enterprises. For those who wish to learn more about the crop, including harvesting the flowers in the early hours of the morning and delicately separating the stigmas by hand, the book is a good investment at £33.50.

Roger W. Smith

*Sugar Beet*. Edited by A. P. Draycott. Oxford: Blackwell Publishing (2006), pp. 474, £125.00. ISBN 10: 1-4051-1911-X. doi:10.1017/S0014479706334539

This significant work largely updates and furthers the seminal work on the subject by Cooke and Scott (*The Sugar Beet Crop*, Chapman and Hall, 1993). For those familiar with the earlier publication, this contribution follows a similar format, with initial chapters dealing with the development of the crop, its physiology, genetics and breeding. A chapter on seed production precedes sections on growing the crop, from soil tillage and establishment, through nutrition, irrigation and crop protection. The cycle is completed with chapters on storage, processing and quality. The structure is coherent as a whole although each of the 17 chapters stands as a review on its own. This is more than just an update, with an overlapping, but different selection of authors (32 in total) from the previous book. The review format generates an extensive list of references (over 2500), a significant proportion appearing after the mid 1990s. The editor has done well to ensure a consistent and high quality throughout. The style will engage lead practitioners and advisors, as well as students and researchers. There are a few minor quibbles, which may vary with readers, but I would have thought that to look forward, having only one page dedicated to genetic transformation was somewhat miserly. Also, not having a chapter or more dedicated to environmental issues such as effects on biodiversity, energy balances and pollution possibly reflects an over-reliance on the structure of the previous tome. Nonetheless, this book is a major contribution and is highly recommended for anyone working or researching with the crop.

Michael Gooding

*Fruits for the Future. 8. Monkey Orange. Strychnos cocculoides*. By C. K. Mwamba. Southampton, UK: Southampton Centre for Underutilised Crops (2006), pp. 98, available free on request to national scientists of developing countries. ISBN 0854328416. doi:10.1017/S0014479706344535

As someone who first tasted *Strychnos cocculoides* in 1971 and has been involved with the domestication of wild species, including that of *Strychnos*, I was keen to read this book. Has the book succeeded in its aim of promoting its selection, domestication and marketing? On the whole, yes, although there are a number of sections with information that is hard to understand.

The section on taxonomy is useful, with the most common species described and included in an identification key. Misleading single point locations for the species are given for each country, when the descriptions are much better, and contradict the former. The section on uses is good, and goes beyond simply stating palatability. The section on ecology contains interesting information alongside a table with the various soil types that gives a maximum stocking density to *Strychnos cocculoides* of six trees per hectare – surely this is what occurs in the wild rather than the maximum potential? This is followed by two tables on specific sites in Botswana that could have been omitted as they give nothing useful for the reader.

In conclusion, this is the best book on *Strychnos* available and it does contain useful information, but I can't help but feel that a second edition could make improvements, and with luck incorporate additional research findings.

Ian Martin

*Fruits for the Future 9. Mangosteen (Garcinia mangostana)*. By M. bin Osman and Rahman Milan. Southampton, UK: Southampton Centre for Underutilised Crops (2006), pp. 170, available free on request to national scientists of developing countries. ISBN 0854328173. doi:10.1017/S0014479706354531

This book is the latest in a series on underutilized tropical fruit crops. Thirteen chapters cover taxonomy and distribution, production volumes, ecology and agronomy, harvesting, processing, economics and marketing.

The final chapter deals with research needs and constraints to commercial cultivation. The main constraint is economic; with a payback of 15–19 years, a mangosteen orchard is not an attractive investment. Precocious material is needed, but all mangosteen trees are female, producing apomictic seeds, and are probably a single clone from a hybrid between two other *Garcinia* species, so genetic variation is minimal. Interspecific hybridisation, mutation breeding and grafting are possibilities for crop improvement, but only the last has received much attention: grafting onto seedling rootstocks gives early maturity, and the methods are carefully described. Tissue culture propagation is also described in detail, but the advantages of this are not explained.

The book is rather let down by poor quality of the colour plates, and incorrect numbering of text references to them. The section on storage of fruit is repetitive and inconclusive, but those on field establishment and fertilizers, and on harvesting, ripeness standards and processing, are good, and should prove useful to anyone interested in this delicious fruit.

Hereward Corley

*Testing Methods for Seed-Transmitted Viruses: Principles and Protocols*. By S. E. Albrechtesen. Wallingford, UK: CABI Publishing (2006), pp. 268, £55.00. ISBN 08-519-9016-9. doi:10.1017/S0014479706364538

This book provides a comprehensive survey of the subject of seed-transmitted plant viruses and methods for their detection and diagnosis. It is divided into two parts; in the first three chapters (46 pages) the economic importance of seed-health testing and seed certification, and the current state of knowledge of seed transmission mechanisms, epidemiology and methods to control seed-borne infection are reviewed. A good selection of original articles is cited for further reading. The second part (176 pages) describes in some detail the three principle methodologies used for detection and diagnosis of seed-borne viruses: biological, serological and nucleic acid-based assays.

The principles of the methods are described in some detail and illustrated with useful practical examples and guidance is given on choice of method for a particular purpose. Detailed laboratory protocols are provided with notes and a commentary on the pros and cons of a particular test, suitable control samples, tips and troubleshooting. A minor criticism is that the layout of the protocols could be simplified and some of the subheadings are easy to overlook, making the method a little more difficult to comprehend. There is some repetition in the methodology and discussion, which is almost inevitable in a book of this kind. A final chapter briefly describes other detection techniques and issues surrounding sampling and assay standardization. Appendices are provided on composition of buffer solutions and suppliers of equipment and reagents.

This book is a useful handbook for research students and professionals involved in virus detection and plant health. It is also good value for money.

Lesley Torrance

*Plant Roots – Growth, Function and Interactions with the Soil*. By P. Gregory. Oxford: Blackwell Publishing (2006), pp. 328, £99.00. ISBN 1405119063. doi:10.1017/S0014479706374534

This is a major addition to the select group of monographs devoted to roots. The chapter titles reveal its breadth of coverage: Plants, roots and the soil; Roots and the architecture of root systems; Development and growth of root systems; The functioning root systems; Roots and the physico-chemical environment; Roots and the biological environment; The rhizosphere; Genetic control of root system properties, and Root systems as management tools. Each chapter provides detailed discussion backed up by numerous references, diagrams, graphs and tables (plus a welcome set of colour plates), all of excellent quality. This book's most obvious predecessor is R. Scott Russell's classic *Plant Root Systems* (1977). Gregory puts more emphasis on rhizosphere biology and genetics, and less on responses to tillage, reflecting the subject's main growth areas over the past 30 years. One aspect that has persisted, however, is that most detailed root work is still done on crops. This means that the indispensable work of McCully, Passioura, Nye, Tinker, Drew, Marschner, Steudle and Gregory himself rightly gets extensive coverage. However, the primarily ecological, but equally important, work of Fitter, Caldwell, Jackson, Pate, Read and others is not overlooked. The index is generally useful (those interested in lateral root proliferation, for example, will be led easily to pp. 147 and 158; but those looking specifically for barley or *Arabidopsis* will search the index in vain). I expect Peter Gregory's very informative book to become the subject's standard text and in the possession of anyone interested in how roots grow and function.

David Robinson