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

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