

BOOK REVIEWS

Biodiversity and Domestication of Yams in West Africa: Traditional Practices Leading to Dioscorea rotundata Poir. By R. Dumont, A. Dansi, P. Vernier and J. Zoundjihékpon. Montpellier and Rome: CIRAD and IPGRI (2006), pp. 95, no price quoted. ISBN 9-782876-146327. doi:10.1017/S0014479707005649

This is a slim book, but the core text contains a lot of information and analysis. It is not a book to fill in all the gaps for those that know nothing about *Dioscorea* species, for there is not even a key to separate species and cultigens. It is nonetheless a fascinating account for tropical agriculturists, ethnobotanists and taxonomists. Whilst we are becoming increasingly aware that the division between 'wild' and cultivated plants is both blurred and often confusing, yams are surely one of the few plants where this interplay between wild, cultivated and 'feral' continues to occur, and indeed is incorporated into both folklore and good husbandry by farmers and not just researchers.

Neither is it an easy book to digest and it needed careful reading twice for this review. Practically every aspect of biology of the group of yam species to which the cultivated white yam (*Dioscorea rotundata*) belongs – be it genetic status, phenology and sexuality – is variable. Previous studies have highlighted this, but the different viewpoints have only added to the challenge facing the authors (and readers) of this book. You are left wishing for a simplified taxonomy, with wild and cultivated plants of white yam all under one species, together with some leads on further understanding the remarkable biology of the plant. However, this book gives the best understanding currently available for the unravelling of the story and is highly recommended.

Ian Martin

Drought Adaptation in Cereals. Edited by J-M Ribaut. New York: Food Products Press (2006), pp. 642, US\$89.95, ISBN-13: 978-1-56022-27-4 (hardbound), US\$69.95, ISBN-13: 978-1-56022-278-1 (softbound). doi:10.1017/S0014479707005650

The immediate reaction to this book, yet another physiological treatise on drought, was a sinking feeling. On the positive side, and there is a lot, there are two opening scene/issue setting chapters: one biological, one economic by authors of unquestionable authority. Also of merit are the individual chapters on barley, maize, rice, sorghum and wheat improvement. Drought physiology is over-emphasised, repetitive, contradictory and a failing. While there is a need to discuss physiological traits, it is not necessary in every chapter; the relevance of gene expression in *Arabidopsis* (a diploid species with no endosperm, the main target for yield in cereals) is questionable and 'What can we learn from resurrection plants?' – not a lot, at best an academic chapter with relevance to cereal production suffering its own drought. However, among the dross are some jewels, e.g. wheat breeding for drought using a physiological screen. The book arrives in an era when genomics and physiology are primed for joint analysis. The integration of these disciplines is weak, e.g. physiological ventures into QTL analysis (a very imprecise form of genetics) and geneticists venturing into comparative and functional genomics with little field relevance. Instead of embracing each other, the sparks of friction highlight the persisting gulf. Physiologists and geneticists need to be dragged into the field with breeders and agronomists to work collectively on relevant germplasm; ironically, this was a rallying call of the Prologue. In conclusion, selective reading is advised.

Brian Forster

Producing Table Olives. By S. Kailis and D. Harris. Collingwood, Victoria, Australia: Landlinks Press (2006), pp. 328, \$A69.95. ISBN-978-0-643092-03-7. doi:10.1017/S0014479707005662

The authors, with special interest in quality aspects of olives and food safety respectively, see opportunity for an Australian table olive production and processing industry, for a retail market currently valued at \$A40m

per annum. Over the last ten years numerous small and medium scale production and processing enterprises have been established in suitable agro-ecological zones in all six Australian states. This book is written as a manual, the six chapters covering the global and Australian history of table olive production, processing and consumption, the olive tree, production of raw olives in the Australian context, general and then specific aspects of table olive processing and finally quality and safety. The chapters are divided into indexed sections, and there is a good overall index, making it easy to find specific information. Thirty-two colour plates and 98 black and white figures usefully supplement the text. However, few of some 375 citations are referenced in the text, limiting their utility. The authors are most convincing when writing on their specialist subjects, less so with some of the agricultural detail and the science that lies behind it. Early in the manual the authors observe that high harvesting costs are a barrier to the development of the industry, together with lack of production expertise and perhaps processing knowledge. Harvesting is an example of how the manual would have benefited from applying lessons learned from domesticating the only Australian native crop, the macadamia, and from adapting other tree crops such as citrus, coffee and tea, all with high harvesting costs. Despite the quibbles, the manual is an excellent reference book for anyone who wants to know more about developing the crop in Australia, or indeed similar situations.

Rob Lockwood

Postharvest: an Introduction to the Physiology and Handling of Fruit, Vegetables and Ornamentals. By R. B. H. Wills, W. B. McGlasson, D. Graham and D. C. Joyce. NSW, Australia and Wallingford, UK: University of New South Wales and CABI (2007), pp. 227, £29.50. ISBN 978-0-86840-980-1. doi:10.1017/S0014479707005674

The structure of the new edition of this important book is generally similar to the previous edition published in 1998. The headings of the 13 chapters (Introduction, Structure and composition, Physiology and biochemistry, Effects of temperature, Water loss and humidity, Storage atmosphere, Technology of storage, Physiological disorders, Pathology, Evaluation and management of quality, Preparation for market, Packaging, Commodity storage recommendations) remain unaltered but the content has been updated to reflect recent advances in postharvest science and changes in consumers' requirements of fresh produce, the need for sustainability and the changing role of postharvest technology in supporting these changing needs. The book has benefited from a much improved layout, more judicious use of headings, updating of illustrations and greater use of colour plates. The increased page and font size and the more robust construction of this paperback will be welcomed by its readers. Although much of the background science described that supports postharvest technologies remains unchanged, there are a number of areas where important updates have been made, particularly in emerging technologies to reduce the sensitivity or responsiveness of fresh produce to ethylene. The authors of the book are vastly experienced researchers and implementers in the area of postharvest and continue to provide a book of wide appeal and first point of reference to students in higher level education and those involved in the supply chain for fresh produce. The glossary of common and botanical names of species referred to is particularly useful, as is the comprehensive index and list of important Website addresses.

David Johnson

Forages, The Science of Grassland Agriculture; Volume II; 6th Edition. Edited by R.F Barnes, C.J. Nelson, K.J Moore and M. Collins. Ames, Iowa and Oxford: Blackwell Publishing (2007). pp. 790, £90.00. ISBN 978-081304217. doi:10.1017/S0014479707005686

This second volume of *Forages*, which addresses professionals and researchers, assumes that readers know the basic principles and terminology of the subject (Volume I, 2003, is for undergraduates.) The book, which comprises 46 chapters by 94 authors is in nine parts. Part one deals with the basic biology, including systematics of forage plants; others cover Forage ecology, Species, Systems, Production and management, Improvement, Quality, Harvesting and utilization, and Pasture management. A chapter on Biomass, Energy and Industrial Uses of forages deals with a topical subject; organic forage is not mentioned. Each chapter has copious references. The subject matter is North American with emphasis on the USA, so a very wide range of ecological conditions, forages and production systems is dealt with. From the cold limits of agriculture to the fringe of the tropics and from semi-arid to humid; production systems from ranching to dairying and feedlots are described. Many species, and cultivars, are required to suit such varied conditions; ryegrass and white clover are limited to a relatively small area of mild climates. The information on forages for sub-tropical and semi-arid temperate conditions is