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BOOK REVIEWS

Grasslands: Developments, Opportunities, Perspectives. Edited by S. G. Reynolds and J. Frame. Rome and Plymouth, UK: Food and Agricultural Organization and Science Publishers (2005), pp. 539. ISBN 92-5-105042-2 & 1-57808-359-1. doi:10.1017/S0014479706213796

This volume addresses some of the key issues facing grassland and fodder production in the world, and hence ruminant production, in the 21st Century – a broad remit. The 21 chapters are grouped in sections: Forage Germplasm – temperate legumes, forage legumes in Mediterranean climates, grasses and legumes for tropical South America, and fodder tree legumes; Forage Conservation – silage and hay; Grass-based Systems and Organic Production – potential of grass-based systems, pastoral resources in New Zealand and organic grassland; Climate Change, Biodiversity and Biotechnology – effects of climatic change, biodiversity and advances in temperate forage breeding; Geographical Information Systems – GIS mapping and remote sensing for grassland resource management in China; Farmer and Pastoralist Participation – case studies from South East Asia, West Asia and North Africa; Regional Developments – South East Asia, eastern Africa, Patagonia, Australia and Latin America.

The book stimulates and challenges, and for the most part, achieves its objective of presenting a global perspective on the present status of grassland and fodder and how technology can be harnessed to meet the projected needs of the 21st Century. It complements and is a useful addition to other volumes of the FAO grassland series and merits a wide readership.

J. Morrison

Rice is Life. International Year of Rice and its Implementation. Rome: FAO (2005), pp. 133, US$70.00. ISBN 92-5-105364-2. doi:10.1017/S0014479706223792

The importance of rice, the world's major cereal, which feeds over 50 % of the world's population, is not in doubt. However, since 2000, global rice production and yields have been decreasing and many countries have had to draw on rice reserves, as annual production now falls short of consumption. The International Year of Rice (IYR) in 2004 was an attempt to raise an awareness by governments and the general public of the important need to increase rice production without adversely affecting the natural resource base. The many PR activities that occurred under the umbrella of IYR undoubtedly served to highlight the need for appropriate action.

I enjoyed reading the book despite the superfluous detail on the committees and resolutions that were needed to get IYR off the ground. The second and most important part of the book covers a number of topical issues: rice production and hunger reduction; rice and human nutrition; rice as a symbol of cultural identity and global unity; rice and environment; rice and agricultural biodiversity; and labour, gender and livelihood in rice. The third part contains a short analysis of the future of rice and related agriculture post-2004.

There are many black and white and coloured photographs, some of which emanate from the IYR Global Photography Contest and are aesthetically pleasing and educational. The scientific and cultural aspects of this short publication should, as intended, appeal to a wide readership among those interested in rice and related agriculture.

N. L. Innes

An Ecogeographic Study. African Vigna. By N. Maxted, P. Mabuza-Diamini, H. Moss, S. Padulosi, A. Jarvis and L. Guarino. Rome: International Plant Genetic Resources Institute (2004), pp. 454, no price quoted. ISBN 92-9043-637-9. doi:10.1017/S0014479706233799

African species of *Vigna* include one major and one minor crop (cowpea and Bambara groundnut respectively), and an uncertain number of wild species, for many of which relatively few collections are available and little

is known about their potential for improvement of the cultigens. This study aims to determine distribution, ecology and priorities for conservation of these species, based on data from herbarium specimens and genebank accessions.

The heart of this publication is the ecogeographic conspectus. Original drawings aid recognition of each species, but the complementary morphological descriptions are relegated to an appendix. A dichotomous key is given in another appendix, with an interactive key on a CD included with the publication. Known and predicted distributions of each species are mapped. Discrepancies between the two suggest areas where more collecting is needed. Unfortunately, but unsurprisingly, these are often areas of political instability and/or other impediments to botanical exploration. The authors assess the vulnerability of each species to extinction but do not adequately discuss conflicts between their assessments and the IUCN Red List categories.

The lack of an alphabetically arranged index of species is a major irritation. Minor irritations are the amount of repetition within and between chapters, internal contradictions that could have been removed by more careful self-editing and the assumption that some figures printed in black and white are in colour.

This is a useful compendium on a continental scale of information hitherto mostly available only for individual countries or regions. It contains several interesting and original features – but *caveat lector*.

Barbara Pickersgill

Genetic Improvement of Solanaceous Crops. Volume I: Potato. Edited by M. K. Razdan and A. K. Mattoo. Plymouth, UK: Science Publishers (2005), pp. 451, £54.70. ISBN 1-57808-184-X. doi:10.1017/S0014479706243795

The potato is economically a very important crop, being the world's fourth most important food crop. Improvements to the crop through potato breeding or biotechnology must be based on a thorough knowledge of potato genetics. This book covers a number of important areas in relation to genetic resources, their conservation and utilization, the genetics of the potato at both tetraploid and diploid levels, many aspects of assessing and breeding improved germplasm and reviews a number of disease and quality traits. The book also covers newer technologies of molecular markers and their application to the genetics of potato as well as gene isolation and genetic transformation. The volume would have benefited from more rigorous editing in the form of grouping the contributions appropriately and avoiding minor duplication between authors. The subject matter is quite wide ranging, though the important pest of many temperate areas, potato cyst nematode, is largely omitted. The title of the chapter on 'Propagation by Traditional Breeding Methods' is misleading in that this chapter is focused on improvements to breeding at the tetraploid level rather than propagation. Apart from processing and reducing sugars, which are well reviewed, other tuber quality traits are not addressed.

This multi-author reference work adds to the comprehensive 'Potato Genetics' (CABI Publishing, 1994), edited by Bradshaw and Mackay, and brings the readers up-to-date with recent advances. It will be a useful reference source for students, teachers and research workers in plant genetics, conservation, breeding and biotechnology of potato.

Finlay Dale

Yields of Farmed Species. Constraints and Opportunities in the 21st century. Edited by R. Sylvester-Bradley and J. Wiseman. Nottingham: Nottingham University Press (2005), pp. 651, £70.00. ISBN 1-904761-23-2. doi:10.1017/S0014479706253791

This book reports the proceedings of a conference held in June 2004 in the University of Nottingham's 'Easter School' series. There are 26 chapters in which the prospects for yield improvements in crops and livestock are assessed. The book concentrates on the major crop and livestock species and includes discussion of such factors as physiological potential, prospects for new technologies, and possible economic and environmental constraints. Chapter titles include: Future wheat yields: evidence, theory and conjecture; The future of chemical crop protection; Limits to yield of farmed species: genetic improvement of livestock; Epidemiology of livestock diseases; Nutritional value and yield of forages for livestock: means or limitations to increasing animal production? No concessions are made for the general reader and each chapter is an in-depth analysis of the topic in hand. For those looking for an easy read the first chapter fills that slot admirably. This asks the question: do we need higher farm yields? For the answer read the book!

In general, the authors focus on UK and Northern European aspects of yields of farmed species. Some examination of global, economic and regulatory aspects would have given the reader a context in which to assess the general debate about agricultural production. The book chapters are written by the authorities in

their field. They are comprehensive and clearly written. It is an essential read for anyone with an interest in yield potential of current crop and livestock species.

Carol M. Duffus

Crops and Environmental Change. An Introduction to Effects of Global Warming. Increasing Atmospheric CO_2 and O_3 Concentrations, and Soil Salinization on Crop Plant Physiology. By S. G. Pritchard and J. S. Amthor. Binghamton, NY, USA: Haworth Press (2005), pp. 421, US$49.95. (paperback). ISBN 1-56022-913-6. doi:10.1017/S0014479706263798

Other reviewers (on the cover of the book) describe this text as 'required reading, important, valuable, carefully worked and conceptually wide-ranging, well written and illustrated, of great value to students, decision makers and leading scientific experts'. I agree. The book provides a structured review in 10 chapters that investigate environmental change effects on crop-related aspects ranging from demographics, experimental techniques, cellular responses, water relations, photosynthesis, respiration and biosynthesis, partitioning, mineral nutrition, growth and development, yield and quality and biotic factors. As the authors accept in their preface, the sheer range of topics makes any detailed coverage of specific aspects difficult both in terms of text and the expertise of the authors. Indeed, their stated intention is to 'integrate and interpret effects of environmental change on crops across the wide range of topics covered'. To an extent, this is achieved. Whilst accepting the favourable comments of other reviewers and agreeing that the book will provide a useful and very readable text for students and researchers, I make two points. First, there is little that explicitly covers simulation modelling either of future scenarios of environmental change or of their consequences on crop performance. Second, there is much in the book that will be familiar to teachers and students of crop physiology and recent texts do cover much of the material that relates to environmental processes. Indeed, another of the reviews on the back cover describes the book as a 'suitable choice as a general plant physiology text'. I also agree.

Sayed Azam-Ali

Frost protection: fundamentals, practice, and economics. Volume 1. By R. L. Snyder and J. P. de Melo-Abreu. Rome: FAO (2005), pp. 223, US$38.00. ISBN 92-5-105328-6.

Volume 2. By R. L. Snyder, J. P. de Melo-Abreu and S. Matulich. Rome: FAO (2005), pp. 64. US$24.00. ISBN 92-5-10539-4. doi:10.1017/S0014479706273794

This excellent review of both the scientific aspects of frost occurrence and frost protection techniques is published by the Agrometeorology Group of the Food and Agriculture Organization of the United Nations. The slim pair of volumes continues the strong tradition of practical agrometeorology guidebooks from the FAO. Not only do the two volumes provide extensive coverage of the science of frost and its impacts on crops, but they also incorporate an extensive set of useful tables that are of particular relevance to growers. Overall, they provide a useful practical guide to the latest approaches to frost protection. A particular novelty is the incorporation in Volume 2 of an economic analysis of frost risk and of different frost protection strategies. These analyses are supported by a suite of programs to undertake various aspects of the risk analysis; these are provided on an enclosed CD.

Following a very readable overview, the second chapter in Volume 1 outlines the recommended methods of frost protection at a level suitable for scientifically literate growers and which avoids going into excessive scientific detail. The remainder of the first volume expands and deepens the scientific description of factors affecting frost occurrence and outlines the physiological basis of frost damage before giving a detailed explanation and evaluation of the basis of both passive and active frost protection methods. Although it is generally well-presented, with few obvious errors, the proof-reading has unfortunately missed a substantial number of equations where, as far as I can determine, the numeral 6 has been replaced by a '?'. These errors substantially detract from one's confidence in what otherwise appears to be an extremely useful and authoritative treatment of frost and frost tolerance.

A novel feature of this study is the presentation in Volume 2 of a suite of spreadsheet programmes (requiring Excel 2002 or higher) for calculation of among other things, the risk of certain temperatures occurring and for calculating the risk of frost damage for specific crops with a known changing sensitivity to frost during critical phenological stages. Finally, a program is provided that can be used to determine the cost effectiveness of different methods of frost protection. In general the programs appear simple to use, all containing default values, but really requiring users to enter meteorological data for their own location and sometimes other

information such as the date that a crop is expected to reach a particular phenological stage or its expected yield. In view of the increasing evidence for the reality of climate change, it is a pity that the programs do not appear to include the option to correct for any observed climatic trends in the user's own climatic data. A further potential problem for some users will be the requirement for an up-to-date version of Excel for some of the programs to function properly.

I can highly recommend these books for anyone who needs to know about frost protection methods and their cost effectiveness.

Hamlyn G. Jones

Abiotic Stresses: Plant Resistance Through Breeding and Molecular Approaches. Edited by M. Ashraf and P. J. C. Harris. Binghamton, NH, USA: The Haworth Press (2005), pp. 725, US$89.95. ISBN 1-56022-965-9. doi:10.1017/S0014479706283790

This volume is both timely and relevant to plant scientists, including plant breeders. The clear focus on abiotic stresses provides a unifying theme that creates a sense of integration. The information is presented in two sections: Part 1 focuses on a general overview and main approaches available to breeders. Part 2 provides case studies on the impact of breeding on stress alleviation for the most important world food crops.

The authors are well chosen and provide great insight into the generic issues and specific challenges which are often crop- and location-specific. Inevitably, there is variability in the overall quality of the chapters but each author attempts to address key issues in a systematic manner. Two points of particular irritation are that in some cases the potency of molecular biology is overplayed and the significance of breeding systems as a major determinant of breeding strategy is underplayed. Some authors have clearly identified the need for a focus on population development to underpin both the genetic understanding of stress tolerance and the potential to identify novel alleles for tolerance. Nevertheless, I found the book of interest and it will certainly provide a useful resource for practical research scientists, breeders and teachers.

Wayne Powell

Watershed Models. Edited by V. P. Singh and D. K. Frevert. Boca Raton, FL, USA: CRC Press, (2006), pp. 653, £79.99. ISBN 0-8493-3609-0. doi:10.1017/S0014479706293797

In 1995, Vijay Singh did hydrological modellers an important editorial service by bringing together 26 of the more popular catchment models in the book *Computer Models of Watershed Hydrology*. This work continued, assisted by Donald Frevert, leading to the publication in 2002 of *Mathematical Models of Large Watershed Hydrology* and *Mathematical Models of Small Watershed Hydrology and Applications*. The inevitable omissions provided the catalyst for the present volume. It contains a mixed assortment of 24 models under the seven section headings: preliminaries, large watershed models, streamflow models, streamflow and water quality models, urban watershed models, agricultural watershed models, and planning and management models.

It is salutary to read the overarching opinions of experts: for example '. . . we have not been able to develop physically based models in a true sense . . .' (Singh and Frevert) and '. . . until hydrologists formulate the basic theoretical physical relationships between watershed model parameters and watershed characteristics, regionalization will continue to produce mixed results,' (Vogel). A diverse range of applications at different space/time scales are encompassed: agricultural runoff and pollution management at field-scale, urban stormwater management, policy-setting for land and water management at river-basin scale, and large-scale drought/flood variability assessment. The modelling of the salt load of irrigated catchments using a streamflow integral approach (Connell, Gilfedder and Mein) is of especial methodological interest.

R. J. Moore

Principles and Practice of Soil Science. The Soil as a Natural Resource. 4th Edition. By R. E. White. Oxford: Blackwell Publishing (2006), pp. 363, £29.99. (paperback). ISBN 0-632-06455-2. doi:10.1017/S0014479706303791

Soil is an essential and irreplaceable resource. Knowledge of this resource is vital for responsible management and stewardship. This clearly presented fourth edition, liberally illustrated with figures, graphs, tables and colour photographs is well suited to educate a wide audience about the soil.

The book has three parts. The first part contains descriptions of soil composition and structure. There is nothing in this part that you will not find in other textbooks; what distinguishes it is the presentation, clear explanation and accessible writing style. The second part covers chemical, physical and biological processes in the soil environment as well as soil profile development. The final part 'Soil Management' covers soil productivity, fertilizers and pesticides, problem soils, soil information management and sustainable land management. 'Soil Information Systems' is an excellent concise chapter that presents what can be a confusing array of classifications clearly and describes soil classification and survey in the context of today's information technology.

Each chapter concludes with questions. Answers are given at the back. These tasks require more than summarizing the content and help the reader to get to grips with measures of soil properties and behaviour.

Overall, the book contains up-to-date basic soil science along with contemporary topics such as soil quality and the sustainability concept. Examples are given with reference to Australia, UK, France and China in particular. This will be a useful book for undergraduates. It contains suggestions for further reading which will steer them into the scientific literature.

Sam Baxter

Biological Diversity and Function in Soils. By R. D. Bardgett, M. B. Usher and D. W. Hopkins. Cambridge: Cambridge University Press (2005), pp. 411, £38.00. ISBN 0-521-60987-9. doi:10.1017/S0014479706313798

The editors have compiled a very interesting and useful work that covers a very wide range of topics in many areas of the biology of soils. The large number of contributors, more than 65, from a wide range of disciplines give the readers insight into this fascinating area from many different perspectives. There are 20 chapters presented in six sections, ranging from the soil environment through the drivers and consequences of soil biodiversity to its application, presenting the reader with a wider compendium of subjects, ideas and interpretations than might be anticipated in a single volume. This is an excellent reference book that provides information on soil eco-system functioning which will be useful to a wide range of readers from undergraduates to researchers. The great subject breadth contains a lot of very useful information for both the specialist and those wishing to extend their knowledge into other areas. Non-specialists will find this a very good introduction to soil biology as it informs just how diverse, active, potent and intriguing soil systems are. Some examples of the vast range of topics include description of how microbes fit into the porous 3(4)-dimensional structure of soil, and the huge biodiversity involved and its drivers, patterns, redundancy and consequences. The importance of using a functional approach to soil ecology, linked to inputs and interactions is also frequently addressed. A text to be recommended.

Ron Wheatley

Water Flow in Soils. 2nd Edition. By T. Miyazaki. London: Taylor and Francis (2006). pp. 418, £109.00. ISBN 0-8247-5325-9. doi:10.1017/S0014479706323794

This is the second edition of a book first published in 1993 (Marcel Dekker). It is well illustrated with over 750 figures and monochrome photographs. Many are taken from the author's publications, but all are well drawn and appropriate for the accompanying text.

The book has nine chapters, of which three deserve particular mention. Chapter 2 provides an excellent summary of the 'Physical laws of water flow in soils' (70 pp) and will probably be the most widely read part of the book. Starting with Darcy's law for saturated flow it takes the reader through topics including unsaturated soils and infiltration to vertical flows, evaporation and groundwater recharge (via over 40 diagrams and 100 equations). Chapter 4 on 'Preferential flow' (38 pp) and Chapter 5, 'Water flow in slopes' (54 pp) introduce further 'real world' soil considerations likely to be useful to students, including topography and soil stratification. Other chapters deal with the refraction of water flow in soils, temperature gradients, microbial factors (in water-logged soils), water uptake by plants and techniques to describe heterogeneity.

The book is not for students who dislike equations – there are nearly 500. They are however, accompanied by helpful diagrams and graphs of field or laboratory results. You cannot properly understand soil water processes without recourse to equations and, given careful reading, this book does an excellent job in making them accessible. For an author whose first language is probably not English, the writing is generally of a high standard, being clear and easy to read. It is a well-presented book, but at £109 it is unfortunately more likely to be consulted in a library than to be found on a student's desk.

Mark Robinson

Genetic Engineering and Biotechnology, Concepts, Methods and Agronomic Applications. By Y. Tourte. Enfield, NH, USA: Science Publishers (2005), pp. 199, £21.50. ISBN 1-57808-356-7. doi:10.1017/S0014479706333790

This volume attempts to cover a very broad range of topics of interest to its intended student audience. Over one-third of the book (73 pp) covers some basic biological concepts, including sections on plant physiology, agronomy and cellular and molecular biology. Some parts of these are interestingly structured, for instance, the grouping of the major plant classes and their relation to biotechnology, and the section concludes with a short further reading list. The three chapters on plant biotechnology and genetic engineering, applications of biotechnology and genetic engineering, and plant biotechnologies and bioethics, could probably have been condensed, as the methodologies described have been covered extensively, and more informatively, in several recent publications devoted to the techniques and applications of crop plant transformation. The verbose language throughout this book is of a very formal style, possibly due to the fact that this volume is a translation of an original French publication, and the tone appears somewhat opinionated in places. The figures throughout are rather basic, and many of the tables are largely uninformative, in many cases merely lists of examples. The glossary is a useful addition, but the 'exercises' section, which is in principle a useful concept, is in fact sensationalist and unhelpful. In summary, the volume is an inexpensive introduction to the subject and its context, but not an essential addition to this already extensively reviewed scientific area.

Steve Millam

Global Status of Commercialized Biotech/GM Crops: 2005. ISAAA Briefs No. 34. By C. James. Ithaca, NY, USA: ISAAA (2005), pp. 46, US$50.00. ISBN 1-892456-38-9. doi:10.1017/S0014479706343797

This short publication provides important information on global trends of genetically modified (GM) or transgenic crops, now commonly known as biotech crops. By 2005, 8.5 million farmers in 21 countries were growing biotech crops, up from 8.25 million farmers in 17 countries in 2004. The benefits of biotech crops are outlined and data provided on the countries growing such crops, the main crops (soya bean, maize, cotton and canola) being grown commercially, the special attributes of these modified crops, the global value of the biotech crop market and current research on a wide range of crops.

While the USA and Argentina continue to be the principal adapters of biotech crops, significant increases in countries such as Brazil and China indicate that both developing and industrialized countries are increasing their production of such crops. Commercialization of biotech rice in Iran and the likely approval of such rice in China in the near future could have enormous implications for resource-poor farmers.

This publication is more likely to please protagonists than antagonists of biotech crops. The availability of complimentary copies to those in developing countries should encourage a wide readership.

N. L. Innes

Handbook of Industrial Crops. Edited by V. L. Chopra and K. V. Peter. New York: Food Products Press and The Haworth Reference Press (2005), pp. 535, US$59.95. ISBN 1-56022-283-2. doi:10.1017/S0014479706353793

Buy this book. The title is inadequate, possibly misleading, but it is a worthy compendium of information for the bookshelves of agronomists, botanists, natural-products chemists, food scientists, pharmacists, crop geneticists and breeders, those looking for research challenges, and those seeking knowledge about a select group of twelve tropical and semi-tropical crops. The tome joins a remarkably useful series of related texts from the publishers.

Following a brief tightly written Introduction that neatly encapsulates the book, twelve chapters of varying lengths deal with the following crops: arecanut, cardamom, cashew, cinchona, cocoa, the coconut palm, coffee, oil palm, palmyra, rubber, tea and wattle. Every chapter has an introduction followed by brief geographical distribution, botanical, genetic, agronomic, pathological and processing descriptions. Aspects of current research and development are emphasized, along with views of future prospects for the crop in question. A list of references closes each chapter, and there is an overall index for the volume. Most of the chapters provide contact addresses of relevant research centres. Substantial chapters of more than 45 pages cover cocoa, cashew, coconut palm, rubber, and oil palm. Cinchona, palmyra, and wattle are covered in chapters of 26 pages or fewer.

Deployment of a combination of pedantry and semantics would find fault with several of the articles, criticism reinforced by some poor photographic illustrations – all black and white in an era of high-quality colour digital quality. Such analyses would nonetheless obscure the fact that in every chapter resides fascinating and valuable information. The editors are to be congratulated. All that is needed is a more specific title. The world awaits a good book that covers the main features of industrial crops in their entirety, as well as companion texts to this twelve-crop work of reference.

John R. Hillman

Books under review

Drought in Bulgaria. A Contemporary Analog for Climate Change. Edited by C. G. Knight, I. Raev and M. P. Staneva. Aldershot, UK: Ashgate Publishing (2004), pp. 336, £55.00. ISBN 0-7546-4215-1.

Tomatoes. Edited by E. Heuvelink. Wallingford, UK: CABI Publishing (2005), pp. 339, £35.00 (paperback). ISBN0-85199-396-6.

Researching the Culture in Agric-Culture. Social Research for International Development. Edited by M. M. Cernea and A. H. Kassam. Wallingford, UK: CABI Publishing (2006), pp. 497, £75.00. ISBN 0-85199-003-7.

Land Use Changes in Tropical Watersheds. Evidence, Causes and Remedies. Edited by L. Coxhead and G. E. Shively. Wallingford, UK: CABI Publishing (2005), pp. 191, £49.95. ISBN 0-85199-912-3.

Microbiological Methods for Assessing Soil Quality. Edited by J. Bloem, D. W. Hopkins and A. Benedetti. Wallingford, UK: CABI Publishing (2006), pp. 307, £65.00. ISBN 0-85199-098-3.

Silvopastoralism and Sustainable Land Development. Edited by M. R. Mosquera-Losada, J. McAdam and A. Riguerio-Rodriguez. Wallingford, UK: CABI Publishing (2005), pp. 429, £75.00. ISBN 1845930010.

Valuing Crop Biodiversity. On-farm Genetic Resources and Economic Change. Edited by M. Smale. Wallingford, UK: CABI Publishing (2006), pp. 318, £60.00. ISBN 0-85199-083-5.

Nitrates in Groundwater. Edited by L. Razowska and A. Sadurski. Leiden, The Netherlands: A. A. Balkema Publishers (2005), pp. 295, £60.00. ISBN 9058096645.

Physiology of Stressed Crops. Vol. 2. Nutrient Relations. By U. S. Gupta. Enfield, NH, USA: Science Publishers (2005), pp. 253, £44.52. ISBN 1-57808-371-0.

Heavy Metal Contamination of Soil. Problems and Remedies. Edited by I. Ahmad, S. Hayat and J. Pichtel. Plymouth, UK: Science Publishers (2005), pp. 252, £47.60. ISBN 1-57808-385-0.

Physiology of Stressed Crops. Vol. 3. The Stress of Allelochemicals. By U. S. Gupta. Enfield, NH, USA: Science Publishers (2005), pp. 195, £42.00. ISBN 1-57808-390-7.

Soil Abiotic and Biotic Interactions and the Impact on the Ecosystem and Human Welfare. Edited by P. M. Huang, A. Violante, J.-M. Bollag and P. Vityakon. Enfield, NH, USA: Science Publishers (2005), pp. 439, £55.72. ISBN 1-57808-344-3.

Hydroponics. A Practical Guide for the Soilless Grower. Second edition. By J. B. Jones Jr. Boca Raton, FL, USA: CRC Press (2005), pp. 423, £53.99. ISBN 0-8493-3167-6.

Genetic Resources, Chromosome Engineering, and Crop Improvement. Vol. 2. Cereals. Edited by R. J. Singh and P. P. Jauhar. Boca Raton, Fl, USA: CRC Press (2006), pp. 442, £92.00 ISBN 0-8493-1432-1.

Seeds Handbook. Biology, Production, Processing and Storage. 2nd edition, revised and expanded. B. B. Desai. New York: Marcel Dekker (2004), pp. 787, £125.00. ISBN 0-8247-4800-X.

Encyclopedia of Soil Science. 2nd edition. Vols 1 & 2. Edited by R. Lal. New York: Taylor and Francis (2005), pp. 1600, £289.00. ISBN 0-8493-3830-1.

Readers may be interested to know about the following publications received but not reviewed because of their limited relevance to the majority of readers of *Experimental Agriculture*.

Applied Flow and Solute Transport Modeling in Aquifers. Fundamental Principles and Analytical and Numerical Methods. By V. Batu. Boca Raton, Fl, USA: CRC Press (2005), pp. 667, £99.99. ISBN 0-8493-3574-4.

Looking Ahead: Long Term Prospects for Africa's Agricultural Development and Food Security. Washington, DC: IFPRI (2005), pp. 60, no price quoted.

Prions. The New Biology of Proteins. By C. Soto. Boca Raton, Fl, USA: CRC Press (2006), pp. 167, US$74.99. ISBN 0-8493-1442-9.