

BOOK REVIEWS

A Handbook of Tropical Soil Biology. Sampling and Characterization of Below-ground Biodiversity. By F. M. S. Moreira, E. J. Huising and D. E. Bignell. London: Earthscan (2008), pp. 218, £29.95 (paperback). ISBN 978-1-84407-593-5. doi:10.1017/S0014479709007601

I believe this book to be a great resource for teaching and for researchers interested in soil biodiversity in the tropics as well as elsewhere, providing a guide with standardized and tried methods to monitor biodiversity. With soils in decline world-wide and new pressure for changes in land use, there is an urgent need for standardized methods to monitor the effect of land management on soil biodiversity. The book brings together world leading experts and establishes standards for characterization and quantification of soil organisms ranging from macrofauna and mesofauna to micro-organisms. Methodologies for each group of soil biota are described and discussed in great detail so that it is accessible for non-specialists. All methods have been applied in an integrated sampling scheme to assess the relationship between land use and soil biodiversity in tropical soils. In addition to a description of standardized methods, there are detailed chapters on general concepts, sampling strategies and classification of land use and management. The book starts with the relationship between soil community and ecosystem services and goods from which functional groups are derived and target groups are selected. This is followed by a chapter on selection of sampling sites and requirements for replication emphasizing the need to design a sampling scheme that matches the objectives of the study. The integration of the standardized methods into a well-designed monitoring and sampling scheme makes this book valuable for everybody involved in monitoring changes in soil biodiversity.

Wilfred Otten

Environmental Risk Assessment of Genetically Modified Organisms. Volume 4: Challenges and Opportunities with Bt Cotton in Vietnam. Edited by D. A. Andow, A. Hilbeck and V. T. Nguyen. Wallingford, UK: CAB International (2008), pp. 360, £85.00. ISBN-13: 978-1-84593-390-6. doi:10.1017/S0014479709007613

This book attempts to address potential environmental risks posed by Bt cotton in Vietnam. It provides an excellent summary of the vast amount of data on Bt cotton since its commercialization over a decade ago. It also contains a useful overview of cotton production in Vietnam. But the book does not completely fulfil its promise to be ‘used as a technical manual to enable Vietnamese scientists to evaluate the potential environmental impacts of Bt cotton prior to commercialization’. First, with the exception of Chapter 12 on the possible development of Bt resistance in the insect pests, there is insufficient focus on the potential risks that are specific to Vietnam. Second, the book does not provide a detailed road map of how to address the potential risks in a logical, comprehensive and scientifically justified fashion. Third, the book does not take full advantage of information generated elsewhere to make informed judgments for Vietnam. For example, Chapter 5 focuses on assessing Bt cotton effects on non-target arthropods, and attempts to justify the necessity of field-testing nearly all, if not all, future hybrids despite an abundance of existing information on the gene, the plant in which it is expressed and the receiving environment. A far more efficient and rigorous assessment would be the tiered-testing approach that has been advocated by the US Environmental Protection Agency and the Western Palearctic Regional Section of the International Organization of Biological Control which relies on relevant information from previous studies to determine if additional tests are needed.

Peter Gregory

Governing Agrobiodiversity: Plant Genetics and Developing Countries. By R. Andersen. Aldershot, UK: Ashgate Publishing (2008), pp. 419, £65.00. ISBN 978-0-7546-4177-3. doi:10.1017/S0014479709007625

Systematic analyses aimed at illuminating our understanding of the combined impact of the international regimes that pertain fully or partially to plant genetic resources for food and agriculture (PGRFA) on

management at the national level have not been attempted in any serious way. This book is a pioneering attempt.

The focus is on the mechanisms of influence through which overlapping regimes, comprising: the Convention on Biological Diversity (CBD), the World Trade Organization Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), the Convention of the Union for the Protection of New Varieties of Plants (UPOV) and the International Undertaking and the International Treaty on PGRFA (IU/ITPGRFA), transpose into domestic policies and goal achievements. The book seeks to grasp, through an analytical model, the challenges facing developing countries that have only limited capacity to respond.

The content is laid out in the form of a research study: from the descriptions of PGRFA and the regimes in question, to the analytical framework for analysing the driving force behind their development and their mechanisms of influence, and to testing them in case studies from the Philippines. The book concludes with a serious warning that the mainly negative consequences of the regimes are leading to an emerging 'anti-commons tragedy': a situation where multiple actors have possibilities to exclude each other from the use of plant genetic resources.

This meticulously researched book makes a significant contribution to our understanding of the effectiveness of the international regimes on PGRFA management, and why further research is urgently needed to strengthen international governance for the maintenance and use of plant genetic resources.

Amir Kassam

Growing Vegetables for Home and Market. FAO Diversification booklet 11. Rome: FAO (2009), pp. 91, US\$18.00. ISBN 978-92-5-061398-8. doi:10.1017/S0014479709007637

This succinct booklet by FAO is one of a series aimed mainly at people who provide advisory, business and technical support services to resource-poor, small-scale farmers and local communities in low-and middle-income countries, including policy-makers and programme managers in government and non-governmental organizations. Vegetables provide an opportunity to move away from home gardens and subsistence farming towards cash crop farming, whilst still retaining an important nutritional role at the family level.

Augmented with black and white photographs of vegetable production and marketing in different countries it sensibly emphasizes the need, at least initially, for small-scale farmers to concentrate on the 'easy-to-grow' vegetables – onions, shallots, potatoes and sweet potatoes. Tomatoes and asparagus fall into the category of 'speciality' crops, whilst cucumbers, sweet peppers, lettuce and tomatoes are deemed to be best for greenhouse production. Greenhouses vary from simple to highly complex structures with plastic film a popular replacement for glass.

FAO stresses that the booklet should not be seen as a technical 'how-to-do it' publication but it does cover a wide range of relevant topics, emphasizing pitfalls as well as potential in different environments. A list of additional sources of information, technical support and a number of relevant web-site addresses enables readers to seek more information. There are also a number of boxes with case studies.

I found it an enjoyable read and a useful publication for those involved in or interested in vegetable production and marketing.

N. L. Innes

Handbook of New Technologies for Genetic Improvement of Legumes. Edited by P. B. Kirti. Boca Raton, FL, USA: CRC Press/Taylor and Francis Group (2008), pp. 481, US\$169.95. ISBN 978-1-56022-952-0. doi:10.1017/S0014479709007649

Many of the world's most important food legumes are grown in arid and semi-arid regions of Africa and Asia, where crop productivity is hampered by biotic and abiotic stresses. In recent years biotechnology approaches, mainly genetic engineering and genomics have shown a great potential for tackling these stress constraints and improving crop productivity. However, many food legumes (except soyabean) have not benefited from biotechnology approaches as they have either been branded as recalcitrant to *in vitro* regeneration, an important component of genetic engineering, or suffer from low levels of genetic polymorphism and a paucity of molecular markers – a critical factor to develop genetic and QTL maps. Therefore publication of *Handbook of New Technologies for Genetic Improvement of Legumes* is a very timely and invaluable contribution to legume crops.