the selected contributions. It will be of interest to many concerned with the impact of sulphur on plant growth, and consequences for crop production, food security and human health.

Geoffrey Michael Gadd

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Sustainable Urban Agriculture in Cuba. By S. Koont. Gainsville, Fl, USA: University Press of Florida (2011), pp. 236, £64.28. ISBN 978-0-8130-3757-8.

This book's nine chapters capture the environment of this complex political agro-economy: Historical background and key concepts; The nature and organisation of Cuban agriculture; Foundations in education, research and development; Restructuring worker training, preparatory education and material inputs for urban agriculture; Creating material and moral incentives to motivate workers; Technological innovation in urban agriculture: examples from protected and semi-protected cultivation; Case studies of urban agriculture; Evaluating the success of Cuban urban agriculture; Looking to the future of urban and sustainable agriculture: Cuba and Worldwide.

A selection of photographs indicates some of the physical and biological diversity of the wholly organic systems that have emerged from small home gardens (patios) through parcels of land to larger, collectively or state-managed units.

The author meticulously sets out the very special political, economic, institutional and social conditions that enabled Cuba to survive the 'Special Period' following the sudden ending of Soviet Union support and the previous period of external food import dependency. The country has created an alternative food and farming paradigm that has many important lessons for the rest of the world as more and more countries begin to realise that current systems of globalised, multinational company-dominated corporate food and farming systems are not sustainable. The key elements of this success can be summarised as: education of all stakeholders, a strongly scientific research and development capacity which evolved over many years, cooperative networking by government institutions, the organisational structure of urban agriculture, training systems in new, employment generating technologies, a network for organic input provision, decentralised production units and moral and material incentive structures that generated enthusiasm among many dispersed producer–workers.

The book deserves careful reading and consideration by producers, educators and policymakers.

David Gibbon

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Genomics of the Saccharinae. Edited by A. H. Paterson. Heidelberg: Springer (2012), pp. 657, £153.00. ISBN 978-1-4419-5946-1.

The Saccharinae, according to the first chapter of this book, is a sub-tribe of grasses resulting from a proposed merger of the recognised sub-tribes Saccharinae (sugarcane and relatives) and Sorghinae (sorghum and relatives). This taxon redefinition provides a handy title for a book that includes sorghum, sugarcane and *Miscanthus*. There is some logic in studying these three crops together: all are economically important tropical grasses with C4 photosynthesis with common recent ancestry in evolution. The resulting strong parallels in genome structure can be used to advantage in research: a common theme in many chapters. In particular, it is argued that the genome sequence of sorghum will provide a valuable resource for the other more complex genomes of sugarcane and *Miscanthus*.

Despite 19 genera proposed in the sub-tribe Saccharinae, the book deals largely with only three: sorghum (10 chapters), sugarcane (two chapters), *Miscanthus* (two chapters) or some combination of these.

There is some insightful review of the current state of knowledge and research on genome analysis of these crops, and sorghum particularly. Other chapters on approaches to genetically manipulate these crops, such as genetic engineering, also provide handy overviews of these topics.

However, some important topics relating to the title seem lacking. For example, genetic and QTL mapping in sugarcane was not dealt with significantly. Also, details of steps to translate new knowledge from

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genome analysis to practical genetic improvement programs was arguably lacking, given such application was emphasised.

Overall, this book provides some good in-depth reviews and commentary for these interested in genome analysis of sorghum and some good overviews of activity in certain molecular genetics research fields in sorghum, sugarcane and *Miscanthus*. However, it misses some key areas and is not a comprehensive treatise of the title topic.

Phil Jackson

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The Impact of Climate Change and Bioenergy on Nutrition. Edited by B. Thomson and M. J. Cohen. Dordrecht, Netherlands: Springer (2012), pp. 120, £90.00. ISBN 978-94-007-0109-0.

The Impact of Climate Change and Bioenergy on Nutrition is a book that reads a little like a marketing brochure by the FAO. At a second glance this is not surprising, since most of the authors are employed by the FAO, which is also the co-publisher of this book. Overall, the book is rather thin – with respect to both dimensions and contents.

The book(let) consists of seven chapters. After a summary and an introduction, there are chapters on food insecurity and malnutrition, climate change and food security, nutrition and bioenergy and policies for improving nutrition. The book finishes with conclusions and recommendations.

It is very rare that the authors leave the very general level and become more concrete. The chapter on climate change, for example, mainly seems to be a summary of findings from IPCC AR4 and could be summarised as 'climate change may affect nutrition in some regions'.

The book, therefore, is a well-researched summary suitable for readers who are interested in a general overview of the subject matter. The reader who is already familiar with the subject, on the other hand, will find very little that is novel and not contained within other similar overviews.

Thomas Kleinen

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Field Sampling for Experimental Science and Management. By R. Webster and M. Lark. Abingdon, Oxon, UK: Routledge (2012), pp. 192, £29.99 (pb). ISBN 978-184971-368-9.

The authors have exploited their wealth of practical experience to create an accessible, interesting and up-to-date survey of the statistical issues in soil sampling. They have targeted researchers involved in field sampling but who are not themselves statisticians. The book title specifies environmental science and management but the content is relevant to researchers from any discipline who have to sample soil or any other medium.

Technically, the first seven chapters demand only basic familiarity with mathematical notation, and random variation. These chapters cover simple random sampling; practical considerations; prediction from spatial classification; sampling from designed experiments and sampling for regression and calibration. Each chapter begins with a brief summary of its key points and the statistical concepts are always clearly explained and well illustrated with real data sets.

Chapter eight introduces unbalanced nested sampling designs and their analyses by Restricted Maximum Likelihood (REML). All the didactic strengths of the previous chapters are retained but the option of grappling with the matrix notation of mixed models is available. Similarly chapter nine includes some more technical material in its graded introduction to the model-based prediction methods of kriging. This chapter finishes with a discussion of some recent research into identifying optimal sampling designs by simulated annealing.

My only quibble is the omission of any reference to specific software packages. Some suggestions from the authors would have rounded off perfectly this excellent monograph, which I regret not being available on my bookshelf years ago.

Jim McNicol

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