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BOOK REVIEWS

Farming Systems and Poverty 2001: Improving Farmers' Livelihoods in a Changing World. By J. Dixon, A. Gulliver and D. Gibbon. Rome and Washington DC: FAO and the World Bank (2002), pp. 412, £27.00, ISBN 92-5-104627-1. DOI: 10.1017/S0014479702211059

Broad patterns of similar natural resource bases, production systems and external conditions are used in this book for characterizing major farming systems in the developing regions of the world. Additionally, the relative importance of different broad household strategies for escaping from poverty within those farming systems are identified. Their determinants are not only many but are not always based in the rural space. The last chapter points out that 'it proved impossible to consistently identify either local statistical data or GIS databases that map the sub-national extent of poverty across the developing world, and this probably constituted the largest data gap faced by the authors. Clearly, where such spatially accurate sub-national databases are already available, a farming system analysis would be able to generate useful information on emerging trends, issues and possibilities for local and national development.

The book could have highlighted more strongly that in most circumstances agricultural growth and rural poverty alleviation are led and sustained not by agriculture but by non-agricultural sectors, which provide the effective demand for surplus biological products and opportunity for wage employment. A farming system is just as much a social construct as it is an economic or ecological one. Thus, unless the social determinants of rural change are analysed explicitly, farming systems analyses such as are presented in this book can have limited relevance to development, particularly when the often-used words such as development, poverty, sustainability, rural development and food security are not defined. This deficiency notwithstanding, the book should appeal to agricultural students, researchers and decision-makers in the formulation of rural development strategies.

A. H. Kassam

Farmers, Scientists and Plant Breeding. Integrating Knowledge and Practice. Edited by D. A. Cleveland and D. Soleri. Wallingford, UK: CABI Publishing (2003), pp. 338, £55.00. ISBN 0-85199-585-3. DOI: 10.1017/S0014479702221055

This is a timely publication in view of the increasing interest and effort in (re)-uniting farmers and scientific plant breeders, especially in working with crops grown by resource-poor, low-input farmers in marginal environments. The book focuses mainly on the major food crops, though one chapter is devoted to pumpkins in Cuba. The contributors are scientists of international repute, with on-hand experience in interacting with farmers in participatory plant breeding and participatory varietal selection.

There is variation between the balance of anecdotal evidence and scientific fact within the different chapters and, as might be expected from approaches that are still in their infancy relative to traditional plant breeding, there is a paucity of data on the costs and impact of collaborative plant breeding. Nevertheless, there is clear evidence of the strengths and values that farmers bring to participatory plant breeding and participatory varietal selection and of the need to build on the considerable achievements that have already been made.

I strongly recommend this stimulating and informative book to students, plant breeders, social scientists and administrators of research and development in the international agricultural sector.

N. L. Innes

Handbook of Plant Growth: pH as the master variable. Edited by Z. Rengel. Monticello, NY, USA: Marcel Dekker Inc. (2002), pp. 446, US$175.00. ISBN 0-8247-0761-3. DOI: 10.1017/S0014479702231051

In the words of its editor, this handbook aims to provide a unifying view of the role of pH in plant growth and in plant interactions with the biotic and abiotic environments. It consists of articles on all the major roles of protons

in plant biology. Proton mobility across the plasma membrane and their distribution between organelles are described exhaustively in the first eight chapters. The dynamics of proton movement in the apoplast and in relation to nitrogen movement are discussed well in subsequent chapters. In the last four chapters, the role of soil pH in the regulation of microbial processes and symbiosis between plants and soil organisms are dealt with comprehensively.

The editorial aim has been met fully with a truly impressive collection of high quality reviews that does justice to the importance of this 'master' variable in plant growth. I particularly enjoyed the chapters dealing with structure and function of membrane ATPases, vacuolar ATPases and pyrophosphatases, and the very comprehensive description of confocal pH topography in plant cells.

This is a professional publication. With the exception of those in chapter nine, the figures are of high quality. Perhaps, a greater number of tables and figures would have been welcome. Apart from chapters 7 and 12, which present somewhat dated ideas and literature, the book is packed full with up-to-date references and will be a very useful source of information for researchers, educators and PhD students.

Roberto Viola

Tomorrow's Agriculture: Incentives, Institutions, Infrastructure and Innovations. Edited by G. H. Peters and Prabhu Pingali. Aldershot: Ashgate Publishing Ltd (2001), pp. 844, £65.00. ISBN 0-7546-21-67-7.
DOI: 10.1017/S0014479702241058

This volume of 844 pages contains the Proceedings of the 24th International Conference of Agricultural Economists (2000), the latest gathering of the International Association of Agricultural Economists, which meets every three years. As befits the Association, much of the content is relevant to developing-country agriculture.

The four themes for the invited conference papers were: Globalization of the Food and Agricultural Economy; Improved Market Incentives in the Transition Economies; Agricultural Research, Technology Development and Institutions; and Making Agriculture Environmentally Safe. Contributed papers are divided into the categories of Development and Research, Trade, the European Union and Methodology.

The content touches many of the high profile issues current in international agriculture, including market access, trade, subsidies, biotechnology, genetically modified organisms, precision agriculture, biodiversity and organic farming.

In a reflective paper entitled 'Academic Rigour or Policy Relevance', David Harvey says: 'our capacity for excellent rigour seems mostly inapplicable to our requirements for policy realism'. This echoes an earlier controversy in which the classical experimental method traditionally used in agricultural research for third world farmers was described as 'precision at the expense of relevance'.

The book is clearly structured and well indexed and tracks the evolving interests of the agricultural economics profession. It is a valuable reference book for both insiders and observers.

Mike Collinson

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*.

Home Gardens and In Situ *Conservation of Plant Genetic Resources in Farming Systems. Proceedings of the Second International Home Gardens Workshop, 17–19 July 2001, Witzenhausen, Federal Republic of Germany.* Edited by J. W. Watson and P. B. Eyzaguirre. Rome : IPGRI (2002), pp. 184, no price quoted. ISBN 92-9043-517-8.

The Cartegena Protocol on Biosafety. Reconciling Trade in Biotechnology with Environment and Development? Edited by C. Bail, R. Falkner and H. Marquard. London: Earthscan Publications Ltd and the Royal Institute of International Affairs (2002), pp. 578, £45.00. ISBN 1-85383-840-3.